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Early American Phonology.

C.j Stevens

Louisiana State University and Agricultural & Mechanical College

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EARLY AMERICAN PHONOLOGY

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Speech

by

Cj Stevens

B. A. Louisiana State University, 1951

M. A. Louisiana State University, 1952

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ABSTRACT

This study, taking phonology as a focal point, gathers together the different phases and the different individuals of what may be called the pre-scientific era in American linguistics. Chronologically, this study begins with activity in colonial North America and ends at approximately mid-nineteenth century. Specific phases and certain individuals in the history of early American linguistic endeavor have been the subjects of various articles and of sections in longer works. No attempt has been made, however, to treat of the entire field with special emphasis on the phonological aspects.

The divisions of early American phonology, as conceived in this study, are twofold: (1) research and writing concerned with the languages of the North American Indians and (2) research and writing concerned with the speech sounds of American English. An important subdivision of the second of the two principal fields of inquiry, as given above, is the activity of American lexicographers. This phase of early American linguistic work is treated at some length, with emphasis on the phonological aspects. Scholarly research and writing, during this era, having to do with non-English and non-American languages is largely ignored or dealt with

merely in passing. Such research and writing tended to be in the area of dictionaries, lexicons, and grammars, and of little phonological interest.

Important figures in the investigation of Indian languages are early missionaries such as Roger Williams, John Eliot, Josiah Cotton, Jonathan Edwards, David Zeisberger, and John Heckewelder. Early American scholars in this field include Benjamin Barton, Peter Du Ponceau, John Pickering, Henry Schoolcraft, and Albert Gallatin. Isolated from these was Sequoyah, the Cherokee genius.

Early investigation of American speech sounds begins with Benjamin Franklin and continues, importantly, with Du Ponceau, Pickering, and James Rush. The discussion of lexicography necessarily centers on Noah Webster and Joseph Worcester, but the contributions of David Humphreys, Pickering, Lyman Cobb, and minor lexicographers are not neglected in this study.

Throughout this study, there is an attempt to evaluate and to compare these early endeavors in the field of phonology, both with respect to past and contemporary work and with respect to more modern concepts, theories, and practices.

Although no problems are posed for solution in this study, certain conclusions are inevitable: that early American phonology, despite obvious weaknesses inherent in the stage of development of linguistics in general and phonetics in particular in which the early phonologists functioned,

accomplished significant work, made definite advances, and laid some of the foundations of the modern phase of linguistics and phonetics.

PREFACE

In no other nation in the world is one homogeneous language, without dialects variant in such degree as to interfere with communication, in current, everyday use in so large an area as in the United States. Yet, in all probability, in no other one nation have there been so many classifiably different languages. English is today understood and spoken throughout the United States. Yet, according to Leonard Bloomfield, writing in 1933, ". . . north of Mexico alone there are dozens of totally unrelated groups of languages, presenting the most varied types of structure."¹ In addition, many Indian dialects have passed into the limbo of dead languages. Before the coming of the white man to North America, approximately 1,500,000 Indians lived in the territory north of Mexico. Bloomfield states that "estimates vary between twenty-five and fifty entirely unrelated families of languages for the region north of Mexico. . . ." It is obvious, then, that from the beginning the United States has offered a rich store of treasures to the researcher in languages.

¹Leonard Bloomfield, Language (New York: Henry Holt and Company, 1933), p. 19.

One of the strangest things with which the early colonists were confronted was the strange language of the aborigines. The study of language, informal though the study may have been, thus became a necessity to the early settler. As the country developed and schools of higher learning were established, the study of classical languages and the tongues of continental Europe came about as a matter of course. As the leisure for scholarly pursuits became available, the curiosity of some of the linguists turned to the English language as it was spoken in the New World. Since language is either the sounds of speech or symbols for those sounds, a part of linguistics is necessarily phonetics, or to use a more general term, phonology. It is with the study of phonology in early America that this study is concerned. Individual studies have been made of several of the early phonologists. Much has been written concerning some individual fields of phonological activity. However, some of the figures which appear in the following pages have rarely if ever been considered as phonologists or as contributors to phonology. Also, a survey of the field of early American phonology as a whole has not received proper regard.

In this study it is proposed to make a historical survey of the development and application, both theoretical and practical, of phonology in America prior to the middle of the nineteenth century. In the course of this survey, various contributions of phonological import, by Americans,

are described, compared, evaluated, and analyzed, as the material under scrutiny seems to demand.

The genesis of this study lies principally in an interest in the works of three men: Peter S. Du Ponceau, John Pickering, and James Rush. A chance acquaintance with Du Ponceau's English Phonology, with Pickering's An Essay on a Uniform Orthography for the Indian Languages of North America, and a growing interest in Rush's Philosophy of the Human Voice all led to an investigation of early American phonology and culminated in this present work.

Chronologically speaking, research on this work has progressed in reverse. As is often the case, investigation of a given line of thought or field of study has led backward in time. The very nature of this study has, however, set a limit in that direction. Since it is concerned with American phonology, there is no point in going back beyond the colonization of this country. (It might be well at this juncture to say that by "American," reference is made to colonial America and to the United States.) As for the chronological limit in the other direction, mid-nineteenth century was decided upon for reasons which will presently be stated.

There are two broad divisions of the fields of activity in early American phonology: (1) that concerned with non-English languages and (2) that concerned with the English language. Since this country, upon the arrival of the

white settler, was already occupied by aborigines speaking a variety of languages and dialects, the languages and dialects of the North American Indians were necessarily a subject for study and research. This is not to imply that other non-English languages were not objects of scholarly works, but most of such works were neither primarily nor significantly concerned with phonology. Consequently, attention herein is directed only in passing toward works treating of non-English languages other than Amerindian. With respect to phonological activity dealing with the English language, since the majority of European settlers and their descendants were English-speaking, one field of scholarly investigation was naturally concerned with the English language. Here, a sub-division is valid. Since the listing and the definition of words seems an inevitable human proclivity, a brief account of the making of dictionaries in America, and the consequent defining not only of the meanings but of the sounds of words seem warranted.

These fields of phonological activity are treated in the various chapters of this present study. Thus, Chapters I, III, and IV are concerned with Indian languages; Chapters II, V, and VI deal with early American phonology relating to the English language as spoken in the United States. Chapter V is principally concerned with the phonological aspects of writings by the makers of dictionaries and the compilers of glossaries and word-lists.

It is obvious that a study such as this cannot hew strictly to the line as implied by the use of the term "phonology": the discussion frequently and inevitably goes into the closely related and overlapping fields of lexicography, philology, grammar, and linguistics in general. This is to be expected and no apology is offered or needed for such deviation.

At the outset of this present work, mid-nineteenth century was considered as a stopping point. This cannot be held to rigidly, but mid-nineteenth century does seem a logical division point in any historical study of phonology. Phonology, in any of the fields of activity previously mentioned, can be validly classed as "early" or "modern" in relation to the middle of the nineteenth century. For example, the early study of North American Indian languages reached its summation in Albert Gallatin's "Synopsis of the Indian Tribes of North America" in 1836, and the modern phase of such study has its real beginning in the work of such men as Franz Boas, J. W. Powell, and James Constantine Pilling late in the nineteenth century. The modern science of phonetics may be said to date from the publication in 1867 of Melville Bell's Visible Speech. Likewise, in 1867, appeared the first American book on general linguistics, Language and the Study of Language, by William Dwight Whitney. Dictionaries also entered a modern phase at about the same time with the 1864 revision of the Webster dictionary by the German scholar C. A. F. Mahn. It can be

logically contended, therefore, that the middle of the nineteenth century represents a stopping place for this present study, just as the era of the beginning of the colonization of America represents a logical starting place.

A word with respect to the development of the study remains to be said. A chronological development has been attempted, so far as such is compatible with the field of activity under consideration in any given chapter. The consideration of Indian languages, for example, is interrupted by Chapter II, not only for reasons of chronology, but in order to give background for the further developments in Indian phonology. The survey of the activities of Pickering and Du Ponceau do not follow a strictly chronological course because of the convenience of grouping their work on Indian languages and their work on other languages, principally English, in two separate chapters. One more example of the conflicts inherent in this twofold development--chronology and subject--will suffice. The activities of the dictionary makers and the compilers of glossaries and word-lists are considered in one chapter and as a unit, despite the fact that chronologically their activities overlap with activities in other fields.

The body of this work begins, then, with the earliest piece of literature by an American relating to the language of the North American Indians. It ends with an account of

the swiftly waning influence of James Hush in the field of what is now called phonetics. In these two chapters, and in the intervening four, the development and application of early American phonology is surveyed. Description, comparison, evaluation, and analysis of phonological material is given when deemed valuable and pertinent.

CHAPTER I

MISSIONARIES AND INDIANS: THE PHONOLOGY OF CONVERSION

The early missionaries in America, in the idealistic venture of saving souls, were faced with the practical problem of communication. By far the greatest number of unsaved souls in the New World belonged to people who spoke strange, non-European languages. The colonial divines had both the task of ministering to the spiritual needs of the transplanted Europeans and the plain duty of converting the heathen Indians. Linguistically speaking, the problems in the former case were no different in the wilderness of the New World from those in the prosaic confines of the Old. The terms of salvation and damnation were the same. The fact that the 685 pioneers of the early settlements of Plymouth, Watertown, and Dedham came from approximately thirty-two different areas of the British Isles, plus English from Holland,¹ making a total of eight distinct dialect groups among the early settlers,² raised few problems and

¹Anders Orbeck, Early New England Pronunciation, As Reflected in some Seventeenth Century Town Records of Eastern Massachusetts (Ann Arbor: George Wahr, 1927), p. 128.

² Ibid., p. 131.

occasioned no comment that has come down to us. The leisure time necessary for scholarly investigation for investigation's sake was not available. One's neighbor might speak English differently, because he came from Yorkshire or Devonshire, for example, but communication among the colonists was hardly impaired. However, the settler's life in the material world of here and now depended upon his understanding and being understood by the natives. Moreover, certainly in the eyes of the missionaries, the Indian's life in the next world depended upon his understanding and being understood by the white man. Obviously, then, it was necessary both to learn the Indian's language and, when feasible, to teach him the white man's tongue. The explorer and the trader could stop with this. If communication were established, that was sufficient. Such was not the case with the missionary and the teacher--one and the same person. For one thing, the very nature of missionary work demands that methods and materials be handed down to one's successors. For another, the very nature of European education and of Christian religion demands the written word, indeed, places a kind of sanctification upon the written word. Religion, as the early missionaries taught it, necessarily implies the written records of the religion. In order to convert the Indians effectively, then, both oral and written communication are necessary. The missionary must be able to preach in the language of the natives. The natives must be able, in time, to read the sacred writings and commentaries. To effect the latter, it is obviously more practical to teach

the Indian how to read in his own language than to teach him how to speak and read English. Not that instructions in English were neglected by the early missionaries, but it was assuredly a delayed objective. In the light of the foregoing, it is evident that any account of early American phonology must begin with the attempts of the early missionaries to cope with and utilize the languages of the Indians of North America.

The zeal of these early missionaries is almost inconceivable to the typical twentieth-century mind. Many of them lived for years with the Indians. Some of them died with the Indians. They were, for the most part, honored and revered, if not fully understood, by the aborigines. They shared both the comforts and hardships of the original Americans. They labored to understand their languages and their customs. Some of them left written records of these labors of love. It is with these records that a portion of this present study is concerned.

"New-England's Prospect"

The earliest record of the white man's contact with the strange languages of the New World is not, however, from the pen of a missionary, but from an early settler who returned to his native country to write a book. The book is called New-England's Prospect. With a fullness characteristic of the times, the complete title is as follows:

New-England's Prospect. A true, lively, and experimentall description of that part of America, commonly called New England: discovering the state of that Countrie, both as it stands to our new-come

English Planters; and to the Native Inhabitants. Laying downe that which may both enrich the knowledge of the mind-travelling Reader, or benefit the future Voyager. By William Wood. Printed at London by Tho. Cotes, for Iohn Bellamie, and are to be sold at his shop, at the three Golden Lyons in Corne-hill, neere the Royall Exchange. 1634.

In the Preface to a nineteenth-century republication of this work, Charles Deane writes:

New England's Prospect, of which an exact reprint from the first edition is here furnished, may be esteemed the earliest topographical account, worthy to be so entitled, of the Massachusetts Colony. The writer, an intelligent, and apparently educated man, here embodies, in vigorous and idiomatic English, the results of his observation and experience in the country, during a residence in it of about four years. . . .³

To which he adds (p. ix): "Of the writer of this book, William Wood, but little is known with certainty. . . . " In fact, all that is certainly known is his name, his nationality, and the fact of his residence in the Colony of Massachusetts.

The comments relevant to this study are contained in a brief chapter on the language of the Indians.

Of their Language which is onely peculiar to themselves, not inclining to any of the refined tongues. Some have thought they might be of the dispersed Jews, because some of their words be neare unto the Hebrew; but by the same rule they may conclude them to be some of the gleanings of all Nations, because they have words which sound after the Greeke, Latine, French, and other tongues: Their Language is hard to learne; few of the English being able to speake any of it, or capable of the right pronunciation, which is the chiefe grace of their tongue.

³William Wood. Wood's New-England's Prospect, edited by Charles Deane. A Publication of the Prince Society (Boston: Printed for the Society by John Wilson and Son, 1865), p. vii.

They pronounce much after the Diphthongs, excluding L and R, which in our English Tongue they pronounce with as much difficulty, as most of the Dutch doe T and H, calling a Lobster a Nobstann. Every Countrey doe something differ in their Speech, even as our Northerne people doe from the Southerne, and Westerne from them; especially the Tarrenteens,⁴ whose Tongues runne so much upon R, that they wharle much in pronunciation. When any ships come neare the shore, they demand whether they be King Charles his Torries, with such a rumbling sound, as if one were beating an unbrac't Drumme. . . . One of the English Preachers in a speciall good intent of doing good to their soules, hath spent much time in attaining to their Language, wherein he is so good a proficient, that he can speake to their understanding, and they to his; much loving and respecting him for his love and counsell. . . .⁵

Here is the first mention in American linguistic literature of the long-continuing attempt to link the Indian tribes with the lost tribes of Israel, an attempt which this "intelligent and apparently educated" author effectively dismisses. Here also is the first phonological observation upon an Indian language. Also, in New-England's Prospect is found the first Indian vocabulary in the English tongue on record. It consists of six pages, appended to the body of the work (following p. 110), but has no key to pronunciation. The English preacher whom Wood mentions in the preceding passage is undoubtedly John Eliot, of whom more will be said later.

⁴The term "Tarrenteens" refers to the Abnaki Indians, a confederacy of tribes in northeast America. The "Tarrenteens," as they were called by the early colonists, were allies of the French. Their name was long a synonym for savagery among the New Englanders. Following the defeat of the French in the French and Indian Wars, the Abnaki withdrew from New England. Their descendants now live chiefly in Quebec, New Brunswick, and Maine.

⁵Ibid., p. 103.

Roger Williams and his "Key"

The first complete book in English dealing principally with an Indian language was written by Roger Williams. This sturdy individualist, determined non-conformist, and zealous Christian found time during a voyage to England to write A Key into the Language of America.⁶ In length, the full title rivals those of many modern theses and dissertations:

A Key into the Language of America: or, An help to the Language of the Natives in that part of America, called New-England. Together, with briefe Observations of the Customes, Manners and Worships, etc. of the aforesaid Natives, in Peace and Warre, in Life and Death. On all which are added Spirituall Observations, Generall and Particular by the Authour, of chiefe and speciall use (upon all occasions,) to all the English Inhabiting those parts; yet pleasant and profitable to the view of all men.

The 19th century literary historian, Moses Coit Tyler, gives this account of the writing of William's Key:

In the early part of the year 1643, the four colonies, Massachusetts Bay, Plymouth, Connecticut, and New Haven, formed themselves into a snug confederacy called The United Colonies of New England, from which very naturally Rhode Island was excluded,-- an incident that reminded the latter in a lively way of its perfect isolation among the peoples of this earth. As it had no recognized connection with its sister-colonies, so it had none with the mother-country. At once, it resolved to procure for itself such civic respectability as could be conveyed by a charter from England; and it summoned its foremost citizen, Roger Williams, to thither [*sic*] and get it. This command he promptly obeyed, taking ship

⁶Roger Williams, A Key into the Language of America (London: Gregory Dexter, 1643; reprinted, with an Introduction by Howard M. Chapin, Providence: The Rhode Island and Providence Plantations Tercentenary Committee, Inc., 1936). References in these pages are to the 1936 reprint, which is listed as the 5th edition of Williams' book.

that very summer, not from Boston--in whose streets he was forbidden to set his foot--but from the friendly Dutch port of New Amsterdam. It was upon this long and leisurely sea-voyage that he composed his first book . . . which was given to the press soon after his arrival in London.⁷

This book was written in 1643, seven years after Williams had founded Providence. Williams had begun to study Indian languages in Plymouth,⁸ before his exile from Massachusetts in the winter of 1636. By 1643, the missionary and reformer had had ample time to become acquainted with the Indians of his vicinity. The Key provides information in regard to the manners and customs of the Narragansett Indians, as well as a vocabulary and phrase book of the Narragansett language. The information was not based on hearsay. Williams actually lived among the Indians for some time, apparently as a welcome guest. The Narragansetts were a powerful tribe who established a dominion extending to Weymouth on the northeast and to Mount Wachusett on the northwest, with the Atlantic Ocean limiting them on the east and on the south. They forced the submission of the Niantics, Cowesets, Shawomets, Nipmucs, Wampanoag, Pocassetts, Sakonnetts, Massachusetts, and the island tribes of Narragansett Bay, Block Island, and the eastern part of Long Island. According to Swanton, "The Narraganset belonged to the

⁷Moses Coit Tyler, A History of American Literature, 1607-1765 (New York: G. P. Putnam's Sons, 1978; reprinted, Ithaca, New York: Cornell University Press, 1949), p. 213, reprint.

⁸Perry Miller, Roger Williams (New York: The Bobbs-Merrill Company, Inc., 1953), p. 50.

Algonquian linguistic family and spoke an n-dialect like the neighboring Massachusetts [cf. Wood's observation of the pronunciation of "lobster," p. 5], Wampanoag, and probably the Niantic (East and West) and the Nauset.⁹

The Key itself consists of Narragansett words and phrases, grouped under convenient subject-matter headings, with English translations on the same line, but in the right-hand columns; along with the translations are Williams' own observations and thoughts on the customs and manners of these Indians. The Indian words are written in English characters, presumably with English sound values, modified by accent marks. Williams, in his "Directions for the use of the Language," writes:

Because the Life of all Languages is in the Pronunciation, I have been at the pains and charges to Cause the Accents, Tones or sounds to be affixed, (which some understand, according to the Greeke Language, Acutes, Graves, Circumflexes) for example, in the second leafe in the word Ewò He: the sound or Tone must not be put on E, but wò where the grave Accent is.

In the same leafe, in the word Ascowequáassin, the sound must not be on any of the Syllables, but on quáss, where the Acute or sharp sound is.

In the same leafe in the word Anspaumpmaûntam, the sound must not be on any other syllable but Maûn, where the Circumflex or long sound Accent is.¹⁰

In ancient Greek, a raised tone or pitch was indicated by an acute accent; a tone lowered from a higher pitch, but probably not so far as the level or flat tone of final unstressed

⁹John R. Swanton, The Indian Tribes of North America, Smithsonian Institution, Bureau of American Ethnology, Bulletin 145 (Washington: Government Printing Office, 1952), p. 27.

¹⁰Williams, unnumbered page preceding p. 1.

syllables was indicated by the grave accent; while the circumflex indicated a tone which was first raised, then lowered. It is not certain whether Williams means to indicate pitch or refers to "close" and "open" sounds. Since he refers to "tones," it is probable that he actually means to indicate pitch and stress.

This book stands out among the seventeenth century New England religious controversial tracts. Theological works occupy such a predominant place in the New England literary output of this time that this comparatively scientific study by Williams is surprising. The languages of Mexico and South and Central America had been treated in Spanish, and material on the Huron language had been printed in French, but the Key is the first attempt in English of a study of an Indian language. However, its primary purpose was intimately connected with Williams' missionary activities. As an early nineteenth century reviewer notes:

In 1643 Roger Williams published in London his "Key to the Language of America," the result of his observation among the Indian tribes "wherever English dwell, about two hundred miles between the French and Dutch Plantations." This is probably the earliest tract upon the New England languages extant, and is a curious and valuable document to the philologist. But it seems to have been regarded by the author in no other light than as affording the means of converting the tribes by whom the language was spoken.
 . . .

Indeed, this is a valuable document to philologists, but, as Chapin observes, " . . . it must have been of great

¹¹"Civilization and Conversion of the Indians," North American Review, April 1829, pp. 354-368, see pp. 360-361.

practical use to the missionaries, traders and early settlers in the outlying districts in New England."¹² Surprisingly, Chapin also testifies to intensive use of the Key in more recent times:

As a vocabulary handbook, the "Key" has stood the test of almost three centuries and in our present twentieth century is carried as a pocket vocabulary by Mr. W. B. Cabot of Boston, when he wanders across the vast and lonely wastes of Labrador with Indians who are unacquainted with the English language. These Indians are Algonquians and of the same linguistic stock as our Narragansett Indians. Although their speech is a dialect somewhat different from the Narragansett dialect in which the "Key" is written, the roots are the same; and a person with a knowledge of the difference in accent and inflection of the two dialects can reconstruct one from a knowledge of the other. . . .¹³

Although its value is not limited to the purely philological, a biographer of Williams perhaps overstates the uniqueness of the Key when he writes:

. . . It is the only source for Indians names of animate and inanimate objects, many words and phrases of familiar speech in daily intercourse, and the conduct and character of the Indians in this part of New England. No account of the American Indians, no history of New England, can be complete if the contribution of Mr. Williams is neglected. Cotton Mather in his *Magnalia* and many other writers since have filched and borrowed freely from it without acknowledging their source.¹⁴

The practical value of the Key to Williams' contemporaries

¹²Williams, Chapin's introduction, pages not numbered.

¹³Ibid., loc. cit.

¹⁴James Ernest, Roger Williams (New York: The Macmillan Company, 1932), p. 240.

and immediate successors cannot be gainsaid; its later use by Cabot cannot be disputed; nor can its value as one of the few monuments of the vanished Narragansetts be ignored; for, as one writer notes, "The nation who spoke this language has long since disappeared, and the only monuments that remain, besides this 'Key' of Roger Williams, are the translation of the Bible, by John Elliot [sic], and the Indian Grammar, by the same indefatigable missionary and student."¹⁵ Its value in isolation cannot be compared, however, with the worth it later gained in the nineteenth century as a part of the data of the developing scientific study of Indian languages.

John Eliot

From a linguistic and philologic standpoint, the most important of the New England divines was John Eliot, the "Indian Apostle." His works are both more numerous and more comprehensive in their treatment of the languages of the Indians than those of any other early writer. Peter S. Du Ponceau does not exaggerate greatly when he writes: "Tout ce que nous savons des langues des Indiens du Massachusetts est dû aux travaux du vénérable Eliot et du ministre Cotton, son collaborateur et son ami."¹⁶

¹⁵John Russell Bartlett, Bibliography of Rhode Island (Providence: Alfred Anthony, Printer to the State, 1864), p. 276.

¹⁶Peter S. Du Ponceau, Mémoire sur le Système Grammatical des Langues de Quelques Nations Indiennes de l'Amérique du Nord (Paris: A. Pihan de la Forest, 1838), p. 279.

All of Eliot's work is concerned with the so-called Natick dialect. The Natick Indians were the same as the Massachusetts. John Pickering accounts for the use of the term "Natick" synonymously with "Massachusetts" as "apparently from the accidental circumstance, that Eliot established his first Indian church in the town called Natick, which was near Boston and was once the town of greatest note among the Indians in this quarter."¹⁷ Eliot worked and lived among these Indians, preaching the type of Christianity peculiar to his time and religious sect and practicing, apparently, a Christianity which is peculiar to no definite place, time, or sect. He was beloved and respected by his "praying Indians." His generosity was proverbial. His devotion to his mission was ceaseless. His linguistic labors, although of considerable worth to later philologists, like those of Williams, were undertaken to increase the effectiveness of missionary work among the Indians. Both his methods and his immediate aims were eminently practical. Another John Eliot, writing early in the nineteenth century of his illustrious ancestor, says:

The Massachusetts language, in which he translated the bible and several practical treatises, would serve the purpose of a missionary. The first thing he did was to learn this language of the people, and then he could preach without the medium of an

¹⁷John Eliot, A Grammar of the Massachusetts Indian Language. A New Edition with Notes and Observations, by Peter S. Du Ponceau, LL. D., and An Introduction and Supplementary Observations, by John Pickering (Boston: Phelps and Farnham, for the Massachusetts Historical Collections, 1822), Pickering's "Observations," p. 204.

interpreter, which is likely to cause mistakes--and sometimes in material points. An old Indian, who could speak English, was taken into his family, and by conversing freely with him he learnt to talk it, and soon was able to reduce it to some method, and became at last so much master of it, as to publish a grammar, which is printed in some editions of the Indian bibles.¹⁸

Over a half-century later, a more detailed account and evaluation was given by another researcher into the Natick dialect.

. . . He secured the aid of a young Indian of Long Island, who had been taken prisoner in the Pequot war of 1637, and put to service with a Dorchester planter. This native, while he understood his own language, had a fair knowledge of English, and had a clear pronunciation. With his assistance, Eliot translated the Commandments, the Lord's Prayer, and many texts of Scripture, and compiled both exhortations and prayers. The difficulties and disadvantages under which his studies were prosecuted may be easily imagined. It was necessary, first of all, to teach his teachers. That the Indian language had never been reduced to rules, and was still unwritten, was not the chief hindrance to a learner. . . . its general structure, all its distinctive features, its laws of synthesis, by which complex ideas could be compressed into single words, were unknown or but imperfectly understood. It had no recognisable affinity to any language of the Old World. To English-speaking scholars the Algonkin plan of thought was a confused maze; to English ears the vocabulary was a jargon of harsh sounds combined in words "long enough," Cotton Mather thought, "to tire the patience of any scholar in the world. One would think," he adds, "they had been growing ever since Babel, unto the dimensions to which they are now extended."¹⁹

In a recent account, Eliot's beginning in the Indian language

¹⁸John Eliot, A Biographical Dictionary containing a Brief Account of the First Settlers, and Other Eminent Characters among the Magistrates, Ministers, Literary and Worthy Men in New England (Salem: Cushing and Appleton; Boston: Edward Oliver, 1809), p. 178.

¹⁹James Hammond Trumbull, Origin and Early Progress of Missions in the New World (Worcester, Massachusetts: printed for the author, 1874), p. 13.

is detailed as substantially the same, although the Indian is again called an "old Indian."²⁰

It was the aim of Eliot not only to preach in the native language of the Indians, but to make available to them, in their own language, various sacred writings and commentaries of the Christian religion. As far as is known, the first of these was a catechism. According to John Small, writing in 1880:

In 1653, at the charge of the Corporation for the propagation of the gospel, Eliot published a Catechism for the use of the Indians. This was the first work issued in their language, but no copy of it is now known to exist. . . .²¹

His next important work, a translation of the entire Bible, was published at Cambridge in 1663. It was subsequently reprinted in 1685, again at Cambridge.²² Eliot's Indian Grammar Begun was written, according to Small (p. xxx), "in the winter of 1664." However, the Grammar itself bears the publishing date of 1666. Small says, "In the preparation of this work he had the assistance of his sons. . . ."

The Indian Primer followed closely, in the year 1669. The final work to be reviewed in these pages is The Logic

²⁰Albert Bushnell Hart, editor, Commonwealth History of Massachusetts, Vol. I (New York: The States History Company, 1927), p. 536.

²¹Eliot, The Indian Primer; or, The way of training up of our Indian Youth in the good knowledge of God. 1669. To which is Prefixed The Indian Covenanting Confession. Reprinted from the Originals in the Library of the University of Edinburgh. With an Introduction by John Small, M. A., F. S. A. Scot. (Edinburgh: Andrew Elliot, 1880), p. xvii.

²²Du Ponceau erroneously gives the first date as 1666 (Mémoire, p. 279).

Primer, published in 1672. Other works were written, of general interest to the linguist, but not meriting special mention in this study, concerned as it is more specifically with phonology. Wilberforce Eames, writing in the early part of this century, notes that in 1672,

. . . John Eliot had been engaged for twenty-six years in educational work among the Massachusetts Indians. He began to teach them in their own tongue in 1646, and he had translated into their language, and had seen through the press, the whole Bible, two editions of a Catechism, a Primer, Baxter's Call to the Unconverted, Bayly's Practice of Piety, a grammar of the Indian language in English, and some minor publications. . . .²³

The translation of the Bible was an obviously ambitious undertaking. According to an anonymous early nineteenth century reviewer, "He appears to have been fifteen years employed on the work, including the previous acquisition of the language. . . ."²⁴ While Eliot was working on this translation, he also undertook to teach Indians how to read, in order that they, too, might become teachers and carry the gospel to their own people. He was aided in the translation, according to one account, by an Indian named James-the-printer, who acted as compositor and corrected proofs. According to the same account:

. . . before the Bible was published in its entirety, Eliot had taught a hundred Indians to read, and to

²³Eliot, The Logic Primer. Reprinted from the Unique Original of 1672. With an Introduction by Wilberforce Eames (Cleveland: The Burrows Brothers Company, 1904), pp. 7-8.

²⁴"Civilization and Conversion of the Indians," p. 362.

spread the word. The first edition was no sooner completed than he commenced a second, for his knowledge of the language had grown materially and he had discovered some amusing errors in the original translation. For example, at the passage in Judges where "The mother of Sisera looked out at a window, and cried through the lattice," Eliot had difficulty in asking the Indian word for lattice, and learned afterward that his careful explanation of the nature of the thing had got him a word meaning eelpot. . . .²⁵

The publishing of this Bible marked a notable first in the annals of printing. John Small writes (p. xxvii):

It is worthy of remark that this Indian version of the Scriptures, printed at Cambridge (U. S.), by Samuel Green and Marmaduke Johnson, was the first Bible issued in America. It was not till the middle of the next century that the Scriptures in the English language were printed in that country.

More recently, a Natick Dictionary, based on a study of Eliot's Indian Bible, has made a notable contribution to an understanding of this particular Indian dialect. This work of James Hammond Trumbull was published in 1903. It consists of a Natick-English dictionary and an English-Natick dictionary. The material, while drawn from Eliot's Bible, for the most part, also utilizes other sources, notably Roger Williams' Key. In an introduction, Edward Everett Hale writes: "Dr. Trumbull's vocabularies constitute the most important contribution to the scientific study of Eliot's Indian Bible which has been made since that wonderful book was published."²⁶ Hale's estimate of Eliot's

²⁵Hart, p. 537.

²⁶Trumbull, Natick Dictionary, with an Introduction by Edward Everett Hale (Washington: Government Printing Office, 1903), p. ix.

Bible as a "wonderful book" is amplified (pp. ix-x) as follows:

Even in circles of people who should be better informed, we frequently hear it said that the Bible of Eliot is now nothing but a literary curiosity, and hardly that. Such an expression is unjust to Eliot's good sense, and it is quite untrue. . . .

With great good sense, Eliot used the English letters with the sounds which Englishmen gave them. When the American Home Missionary Society first undertook its translations of the Bible, it adopted, after some question, the vowel pronunciation of the Latin nations. The wadchtu (mountain) of Eliot becomes in Mr. Sherman Hall's translation uijiuii, the one letter u being the only letter which is the same in both words; yet both mean to express the same sound. It seems now a great pity that the translators in our century did not use in any way the diligent work of Eliot.

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Such careful study as Dr. Trumbull and Duponceau [sic, a spelling in common use, but not by Du Ponceau himself] and Pickering and Heckewelder have given to the Algonquian languages shows beyond a doubt that John Eliot was one of the great philologists of the world. His study of the remarkable grammatic construction of the Indian languages proves to be scientific and correct. The linguists of the continent of Europe took it for granted, almost, that Eliot's statements regarding the grammar of the Indian tribes could not be true. It seemed to them impossible that languages so perfect in their systems and so carefully precise in their adaptations of those systems could maintain their integrity among tribes of savages who had no system of writing. All study of these languages, however, through the century which has just passed, has proved that the elaborate system of grammar was correctly described by Eliot, and, to the surprise of European philologists, that it is fairly uniform through many variations of dialect and vocabulary.

With respect to Eliot's use of letters with the sound values of English, Trumbull notes the following exceptions. "Eliot did not use the letter c, 'saving in ch, of which there is frequent use in the language,' and he gave to ch the name of

of chee (with the sound of ch in cheat, cheese) . . ."²⁷
 It should be noted in passing that Roger Williams used
 "c hard," initial in some words; these, Trumbull groups
 under k in his alphabetical listings.

Hale's glowing tribute to Eliot as a grammarian and
 philologist had been anticipated more than eighty years be-
 fore by John Pickering. Both Hale's and Pickering's esti-
 mates were based largely upon the same book by Eliot, the
Grammar of the Massachusetts Indian Language. The Grammar
 was reprinted in 1822 by the Massachusetts Historical Soci-
 ety as the second such reprinting. The first was Roger
 Williams' Key. Of Eliot's book, Pickering writes:

. . . This Grammar had become so rare, that the
 Society had not one perfect printed copy of it in
 their extensive collection of early American pub-
 lications; and they have been indebted to their
 obliging and indefatigable correspondent, Mr. Du
 Ponceau, for a manuscript copy, which he has lib-
 erally presented to them. The present republication,
 however, is made from a printed copy belonging to one
 of their members. . . .²⁸

Pickering gives credit to "the venerable Eliot" (pp. 4-5)
 for having anticipated later observations concerning the
 Indian languages, "long before any favourite theory or
 philological enthusiasm can be supposed to have warped
 the judgment of the writer and led him to distort his facts,
 in order to make them suit an ingenious hypothesis. . . ."
 He cites Eliot's recognition of the polysynthetic character

²⁷Ibid., p. 21.

²⁸Eliot, Grammar, Introduction, p. 14.

of the Indian languages,²⁹ his recognition of the absence of masculine and feminine gender (rather, there are "animate" and "inanimate" nouns), and "in respect to that extraordinary characteristic of the Indian languages, the want of the substantive verb. . . ."

The high opinion that Pickering held of John Eliot was not typical in Pickering's own time, outside of philological circles. A compiler of biographical sketches, writing in 1821, a year before the Indian Grammar was reprinted, allots twenty lines to Eliot, while pages are spent on men now completely forgotten. The biographer writes:

JOHN ELIOT, commonly called the apostle to the Indians, was one of our earliest poets, he flourished in the first period of the settlement of the country. With the assistance of RICHARD MATHER, of Dorchester, he made a version of the Psalms, which was used in the churches for many years. They were suited to the times. Thousands have sung them with devotion. The sacred melodies of the present refined age of poetry will seldom be breathed with such zeal and devotion as these homely psalms were in those days of primitive simplicity. ELIOT and his coadjutor were men of talents, not deficient in imagination, but they had no models of taste or beauty. Their psalms have been so often printed in New England, that it is unnecessary to introduce a specimen of the work. The fame of this apostle to the Indians has come down to us more by his exertions to spread the gospel among them, and translating the scriptures into their language, than by his poetical

²⁹"This Language doth greatly delight in Compounding of words, for Abbreviation, to speak much in few words, though they be sometimes long; which is chiefly caused by many Syllables which the Grammar Rule requires, and suppletive Syllables which are of no signification, and curious care of Euphonie." (Eliot, Grammar, p. 7 original, p. 6 reprint.)

works.³⁰

However, an examination of the Indian Grammar reveals that, beneath the circumlocutions characteristic of Eliot's age, beneath the style and spelling quaint to twentieth-century eyes, there is evidence of an acute and curious mind. The complete original title of A Grammar of the Massachusetts Indian Language is: The Indian Grammar Begun: or, an Essay To Bring the Indian Language into Rules, for the help of such as desire to learn the same, for the furtherance of the Gospel among them. Eliot, in his dedicatory letter to Robert Boyle, Governor of the Corporation, writes of the latter's command "to Compile a Grammar of this Language" and says, "I have made an Essay unto this difficult Service, and laid together some Bones and Ribs preparatory at least for such a work. It is not worthy of the Name of a Grammar, but such as it is, I humbly present it."³¹ This Indian Grammar Begun constitutes the "Bones and Ribs."

³⁰Samuel L. Knapp, Biographical Sketches of Eminent Lawyers, Statesmen, and Men of Letters (Boston: Richardson and Lord, 1821), pp. 138-139.

³¹Eliot, A Grammar of the Massachusetts Indian Language, p. 2 original, p. 1 reprint. In this reprint, Pickering's introduction and the Indian Grammar Begun are each numbered separately in Arabic numerals; Du Ponceau's notes are numbered in small Roman numerals. Thus, the book has three series of pagination, while the Indian Grammar Begun has itself two series of page numbers: that of the original and that of the reprint.

An Examination of the Indian Grammar

According to Eliot (p. 2 original, p. 1 reprint), there are two parts to a grammar. They are given below in Eliot's own eccentric typographical arrangement:

1. The Art of making words.
2. The Art of ordering words for speech.

The art of making words, is 1. By various articulate sounds. 2. By regular composing of them.

Syllables.

Articulate sounds are composed into
Words.

The various articulate sounds must be distinguished
Names.
 by
Characters.

These Names and Characters do make the Alpha-bet.

Eliot then gives his reasons for using English orthography:

Because the English Language is the first, and most attainable Language which the Indians learn, he is a learned man among them, who can Speak, Reade, and Write the English Tongue.

I therefore use the same Characters which are of most common use in our English Books; viz. the Roman and Italik Letters.

Also our Alpha-bet is the same with the English, saving in these few things following. . . .

Here Eliot goes on to define the sounds of some of the characters he uses (p. 2 original, pp. 1-2 reprint, the latter page being misnumbered "2" in the reprint). Apparently he considers that the sound values of the letters he uses are self-evident, save in a few cases. Therefore, his discussion is not full. He begins with a discussion of selected consonants. (Brackets in the following quoted text are Eliot's.)

1. The difficulty of the Rule about the Letter [c], by reason of the change of its sound in the five sounds, ca ce ci co cu; being sufficiently helped by the Letters [k and s]: We therefore lay by the letter [c], saving in [ch]; of which there is a frequent use in the Language. Yet I do not put it out of the Alpha-bet, for the use of it in other Languages, but the character [ch] next to it, and call it [chee].

That is, for Eliot, in writing the Indian language, the letter k represents [k] (and here the brackets indicate IPA notation), s represents [s], while the letter c is not used, except in ch, which represents [tʃ]. He continues with a second problem in the representation of consonant sounds.

2. I put [i] Consonant into our Alpha-bet, and give it this Character [j], and call it ji or [gi], as this Syllable soundeth in the English word [giant]; and I place it next after [i vocal]. And I have done thus, because it is a regular sound in the third person singular in the Imperative Mode of Verbs, which cannot well be distinguished without it: though I have sometimes used [gh] instead of it, but it is harder and more inconvenient. The proper sound of it is, as the English word [age] soundeth . . .

That is, Eliot uses the letter j, sometimes gh, for the sound [dʒ], although he names the sound by the two spellings, ji and gi. He continues with a third problem.

3. We give (v- Consonant a distinct name, by putting together (u f) or (uph), and we never use it, save when it soundeth as it doth in the word (save, have), and place it next after (u vocal.) Both these Letters (u Vocal, and y Consonant) are together in their proper sounds in the Latine word (uva a Vine.)

The wording here is somewhat ambiguous. Clearly, u is meant to indicate [u] or [ʊ]. As to [v], it is possible that Eliot means to indicate that this sound is lacking in the Massachusetts dialect (many Indian dialects have neither

labials nor labio-dentals). By the combination úf or vf as he later gives it (see table of sounds, p. 25), Du Ponceau believes (notes, p. xiii) that Eliot means to indicate the "whistled w," although, as Du Ponceau comments, this notation, vf, was not actually employed in Eliot's orthography. Next, Eliot turns to the remaining consonants on which he thinks comment necessary.

4. We call w (wee), because our name giveth no hint of the power of its sound.

These Consonants (l. n. r.) have such a natural coincidence, that it is an eminent variation of their dialects.

We Massachusetts pronounce the n. The Nipmuk Indians pronounce l. And the Northern Indians pronounce r. As instance:

We say	Anúm (um produced)	
Nipmuk,	Alúm	A DOG
Northern,	Arúm	So in most words.

Here, Eliot recognizes the existence of the so-called n-, l-, and r-dialects, and correctly places the Massachusetts as an n-dialect. He then turns to a brief discussion of vowels and diphthongs.

Our Vocals are five: a e i o u. Diphthongs [sic], or double sounds, are many, and of much use.

ai au ei ee eu eau oi oo ∞

Especially we have more frequent use of [o and ∞] than other Languages have: and our [∞] doth always sound as it doth in these English words (moody, book.)

Here, the problem of the correct sound of ∞ arises. Does Eliot mean to indicate [u] or [ʊ], or a phoneme including both? And, whatever the answer, is there any difference between the sounds represented by ∞ and u? Du Ponceau believes that either, used before a consonant, represents the "whistled

w," by which sound, Du Ponceau adds, Eliot "seems to have been not a little embarrassed. . . ." ³² (For a fuller discussion of Du Ponceau's thoughts on Eliot's phonology, see Chapter III, p. 192 f.)

Eliot than proceeds (p. 3) to a discussion of stress and of his own use of accents. By the term "accent" he appears to mean both stress and also the "close" or "open" sound of the vowel, as will appear in the following.

We use onely two Accents, and but sometime. The Acute (^) to shew which Syllable is first produced in pronouncing of the word: which if it be not attended, no Nation can understand their own Language . . .

ó produced with the accent, is a regular distinction betwixt the first and second persons plural of the Suppositive Mode; as

Naumog, If we see: (as in Log.)
Naumót, If ye see: (as in Vogue.)

By the term "produced," Eliot apparently means "stressed."

The other Accent is (^), which I call Nasal; and it is used onely upon (ô) when it is sounded in the Nose, as oft it is; or upon (â) for the like cause.

This is a general Rule, When two (o o) come together, ordinarily the first is produced; and so when two (œ) are together.

Eliot then proceeds to tabulate the sounds of the Massachusetts Indians (he omits, however, œ). This tabulation is given, in facsimile of Eliot's own arrangement and typography, on the following page.

³²Ibid., Du Ponceau's notes, pp. xii-xiii.

<u>Character</u>	<u>Name</u>	<u>Character</u>	<u>Name</u>
a		n	en
b	bee	o	
c	see	p	pee
ch	chee	q	keuh
d	dee	r	ar
e		f s	es
f	ef	t	tee
g	gee <u>as in</u> geese	u	
h		v	vf
i		w	wee
ji	ji <u>as in</u> giant	x	ex
k	ka	y	wy
l	el	z	zad.
m	em		

Here be 27 Characters: The reason of increasing the number is above.

The "venerable Eliot" concludes (p. 4 original, p. 3 reprint) this section with these words: " . . . and I have been thus far bold with the Alpha-bet, because it is the first time of writing this Language; and it is better to settle our Foundation right at first, than to have it to mend afterwards."

In subsequent paragraphs (p. 4) Eliot discusses the "musical sounds" of the language. One wonders if he was aware of the possibility of pitch being semantically significant, and inserted this discussion on that account. (Again, in the following, the typographical arrangement is a facsimile of Eliot's.)

Musical sounds they also have, and perfect Harmony, but they differ from us in sound. There be four several sorts of Sounds or Tones uttered by Mankinde.

1. Articulation in Speech.
2. Laughter.
3. Lætation and Joy: of which kinde of sounds our Musick and Song is made.
4. Ululation, Howling, Yelling, or Mourning: and of that kinde of sound is their Musick and Song made.

In which kinde of sound they also hallow and call, when they are most vociferous.

And that it is thus, it may be perceived by this, that their Language is so full of (oo) and ô Nasal.

They have Harmony and Tunes which they sing, but the matter is not in Meeter.

They are much pleased to have their Language and Words in Meeter and Rithme, as it now is in The Singing Psalms in some poor measure, enough to begin and break the ice withall: These they sing in our Musical Tone.

So much for the Sounds and Characters.

As can be seen from the above, pitch did not appear to have been significant.

The remainder of the Indian Grammar Begun is less pertinent to the present study, but of interest is Eliot's brief discussion of syllabication and spelling (pp. 4-6 original, pp. 4-5 reprint):

The formation of Syllables in their Language, doth in nothing differ from the formation of Syllables in the English, and other Languages.

When I taught our Indians first to lay out a Word into Syllables, and then according to the sound of every Syllable to make it up with the right Letters, viz. if it were a simple sound, then one Vocall made the Syllable; if it were such a sound as required some of the Consonants to make it up, then the adding of the right Consonants either before the Vocall, or after it, or both. They quickly apprehended and understood this Epitomie of the Art of Spelling, and could soon learn to Reade.

The Men, Women, and up-grown Youth do thus rationally learn to Reade: but the Children learn by rote and custome, as other Children do.

Such as desire to learn this Language, must be attentive to pronounce right, especially to produce that Syllable that is first to be produced; then they must spell by Art, and Accustome their tongues to pronounce their Syllables and Words; then learn to reade such Books as are Printed in their Language. Legendo, Scribendo, Loquendo, are the three means to learn a Language.

The Indian Grammar Begun is sprinkled with moralizing passages and observations, but rarely to the detriment of

the work. They are well integrated into the whole and are frequently so neatly turned as to be definite embellishments. Such a one is the following example (p. 8 original, p. 7. reprint):

Touching the principal parts of Speech, this may be said in general, That Nouns are the names of Things, and Verbs are the names of Actions; and therefore their proper Attendants are answerable. Adnouns are the qualities of Things, and Adverbs are the qualities of Actions.

And hence is that wise Saying, That a Christian must be adorned with as many Adverbs as Adjectives: He must as well do good, as be good. When a man's virtuous Actions are well adorned with Adverbs, every one will conclude that the man is well adorned with virtuous Adjectives.

This grammar, though hardly perfect, was certainly a penetrating and thorough study, whether considered in respect to the few studies of Indians and their languages which had preceded it or in respect to those which came after it. There was a seemingly inevitable confusion in the representation of the vowel sounds and one omission of a consonant sound. As Du Ponceau notes,³³ there was no recognition of velar fricatives, which surely must have existed in the language.

The Indian Primer and other works

Eliot's next work, which will be considered briefly here, was the Indian Primer. To a linguist, interested in a study of the dialects of the Massachusetts Indians, or in the comparative study of Indian languages, this is an important

³³Ibid., Du Ponceau's notes, p. xiii.

source book. It is not, however, in itself, a study of the language. Its full title reveals the primary purpose: The Indian Primer; or, The way of training up of our Indian Youth in the good knowledge of God. It was first printed in 1669, and, according to Small, " . . . no perfect copy is known to exist except the one preserved in the Library of the University of Edinburgh."³⁴ The Indian Primer is entirely in the Indian dialect, except for a bilingual printing of "The Lord's Prayer."

Included also in this 1880 reprint, for which Small wrote an introduction, is "The Indian Covenanting Confession." This, Small believes (p. xlv), is "probably the first Confession of Faith printed in America . . ." There is the probability that Eliot was the author. The Confession is undated, but the only known copy in existence, in the Library of the University of Edinburgh, was apparently brought from New England in 1690 (Small, pp. xlv-xlv). The Indian version of the Confession is printed side by side with an English version, and, in the reprint, is followed by the English version (pp. li-liv). (See Plate I, p. 29.)

In 1672 first appeared The Logic Primer. A reprint with an introduction by Wilberforce Eames appeared in 1904. Eames writes:

The little book of which a reprint is offered now, for the first time, to the collector, is one of the rarest of early American publications. Only one copy is known to have survived the lapse of time, of the

³⁴Eliot, The Indian Primer, Small's introduction, p. 1.

PLATE I



The same in English.

Christians OOnowas Sampowonok.

M Eshhawe Nannampram kah muttawme nuf.
 Sampowon. Rom. 10.10.
 1. Pliuk cont. Gid. Dist. 6.4. Jer. 10.10.
 Qat. nifum Wotutimau, Wunnamonim, kah
 Wunneerapantowwe Nabadant. Mat. 28. 9. 1 John.
 5.7.
 2. Wouke katchilik, ayum God Kefek kah
 Ohke shehe wunogen. Gen. 1. 1. 21.
 3. Nannawunawehau Adam yeu agueyene
 muttawme. Gen. 1. 26. 28.
 4. Adam teanak matchefu kah awskompanau.
 Gen. 3.
 5. Adam nummawunukumun ummachele-
 nek, kah wurookapowonok. Rom. 5. 12.
 6. Neesj neetimus ut matchefongant. Tjel.
 5. 5.
 7. Neefe chipplife nummacheleont,
 1. Waschaubukue matchefonk. Rom. 3. 10.
 2. Uffuwac matchefont. Mat. 15. 19.
 3. Yeum nathpe nustumhoumen micheme
 awkompanonk chopinkomokut. Rom. 6. 22.
 9. Nannampram wime woh nontotikimun
 wustitunwac krukukodut. 1 Cor. 15.

1. **I** Eshu Christ wunnamonih Goo. Tjel. 2. 6, 7.
 Qat. wuketompod, newaj minie kah wouke-
 comp. psuk. Heb. 2. 16, 17.
 2. Wunamfongah Jesus Christ nifwinah
 Sephaufawemud. Heb. 7. 12. 3. Qoobudamweneu.
 Mat. 3. 23. Keist utamood. Luf. 23. 22.
 3. Jesus Christ pahke keolweertamwoshik-
 qun, kah kutradetehetamwoshikqun neppoonk nup-
 wouakqoog, kah yeuh waj kutamwoshikqun
 wame nummacheleongah, shquontam. d. in. Rev.
 1. 5. Mat. 3. 15.
 4. Yeoyea nathpe wunnamonih wime
 wunnamonih, Jesus Christ kumweekomukun wame,
 niukoiatimunt kah wunnamonih quibkent en
 Godut. Mat. 17. 30.
 5. Yeuh waj, neenawun yeu orant apoc,
 wotwetam wotwetam wotwetam wotwetam nuk bog-
 kamong en God 1, mehquntamnat Sabbath,
 pahketamnat tohloke pomamog. Wouk nukthi-
 pifunittimun mebat 3. Sabbath daykith (ne
 woh nni) uferat wame Sabbath daywe pean-
 tamoe uferat, neunak wot inuwaonk Goo,
 anjnonunqueroq wunneetutanamwe paibanit.
 Ne nathpe wunnamonih, nummagweun nuhbo-
 kamong 1 kah wunneetutanamwe en Jesus Christ, mo-
 weetamwotamwe pomamog. 1 shquontamoe.
 Wot Lord Jesus Christ { keitamomasettae,
 moanittae.
 Neomunfawon. AMEN.

Matta chikeweqi mananne nufim, mofuk.
 guphtodize wame yeuh, uferat,

A Christian Covenanting Confession.

I Believe with my Heart and Confess with my
 Mouth. Rom. 10.10.
 1. There is but one, only, living and
 true God, Deut. 6. 4. Jer. 10. 10. But He is
 Father, Son, holy Spirit, Mat. 28. 19. 1 John 5. 7.
 2. In the Beginning God made Heaven and
 Earth very Good. Gen. 1. 1, 31.
 3. He made Adam to rule this Lower world.
 Gen. 1. 26, 27.
 4. Adam quickly sinned, and was punished.
 Gen. 3.
 5. Adam conveyed to us his sin, and
 the his guilt and punishment. Rom. 5. 12.
 6. For this cause, we are all born in sin.
 Tjel. 5. 5.
 7. Our sin is two fold.
 1. Original sin. Rom. 3. 10.
 2. Actual sin. Mat. 15. 19.
 8. By these we deserve Damnation in Hell
 for ever. Rom. 6. 23.
 9. I believe we shall all rise again to judg-
 ment at the last day. 1 Cor. 15.

1. **I** Eshu Christ is the Son of God. Tjel. 2. 6, 7.
 He became a man, and is both God and
 Man in one person. Heb. 2. 16, 17.
 2. Jesus Christ hath Three offices, Priest,
 Prophet, King. Heb. 7. 1, 2, 3. Mat. 3. 23. Luf.
 33. 22.
 3. Jesus Christ obeyed perfectly for us, He
 payed his Death for us when He dyed for us, and
 hereby He deserved pardon for all our sins. Rev. 14.
 5. Mat. 3. 15.

4. Now by the Gospel New-Covenant Je-
 sus Christ calleth us all to repent, and believe-
 ingly to turn unto God. Mat. 17. 30.

5. For these causes, wee that dwell in this
 Town called _____ are gladly willing to bind
 our selves to God, to Remember the Sabbath day
 to keep it holy, so long as we live. And
 also to bind our selves to each other, to meet
 together every Sabbath day (when it may be done)
 to doe all our Sabbath day Services, prayers &c.
 according to the word of God, the holy Spirit
 of God helping us.

By this Gospel covenant, we doe give our selves
 and our Children to Jesus Christ, to walk with
 Him in Church order so long as we live.
 O Lord Jesus Christ, by thy Pardoning Mercie
 grace and mercy Graciously receive us.
 AMEN.

Wee compel not any, but willingly by the
 let us join together in this

*This Indian Confession & Covenant of the Converts in New-England
 was brought from thence in the year 1690 & afterwards gifted to the
 Bibliothek of the Collage of Exeter (my alma mater) by Threlk.*

The Indian Covenanting
 Confession

edition of one thousand which was printed by Marmaduke Johnson at his press in Cambridge, Massachusetts, in 1672, and this one has strayed far from the place of its origin, being now preserved in the British Museum . . .

.

The original edition measures about three inches and three-eighths in height, by two inches and a quarter in width, and contains forty leaves not paged, with sheet-marks A to E in eights, including the blank leaf before the title. The running heading of each page is The Logick Primer. . . .³⁵

This reprint was made from photographs made of the entire original in 1889, at the expense of James C. Pilling, in an edition of six copies (Eames, p. 7).

The Primer is printed without accompanying notes of any sort. The plan is of a line in the Indian language with English equivalents printed in small type over the appropriate Indian word or words. The purpose, as given in Eliot's own words in the "Introduction" to the reprint of 1904, is to teach teachers: "I have undertaken and begun a kind of academical reading unto them, in their own language, thereby to teach the teachers and rulers, and all that are desirous of learning."³⁶

Eliot's various works in and on the language of his "praying Indians" are important not only for their intrinsic value as grammatical and lexical sources of information, but

³⁵Eliot, The Logic Primer, "Introduction," pp. 5, 6-7.

³⁶Eames here quotes Eliot from Thomas Birch's Life of the Honourable Robert Boyle (London: 1744), p. 431.

in a larger sense. They were to form part of the picture of Indian languages as a whole which was to be formulated by later writers. Eliot's works, along with others, were to these later writers not only sources of information but also of inspiration.

Josiah Cotton

The next subject for consideration is a son of a friend and co-worker of John Eliot, Josiah Cotton. Pickering, writing of Eliot's translation of the Bible, says:

. . . Eliot, in a letter of July 7, 1688, to the celebrated Sir Robert Boyle, who was Governour of the Corporation of propagating the gospel among the Indians of New England, and occasionally supplied money for that purpose, speaks of having paid ten pound to Mr. John Cotton, who, (says he) helped me much in the second edition of the Bible. . . .³⁷

John Cotton was the father of Josiah Cotton, whose Vocabulary of the Massachusetts (or Natick) Indian Language was printed in 1829 from a manuscript dated 1707-1708. The "Advertisement" to this publication, signed "J. D.," gives the following biographical remarks concerning Cotton:

. . . Josiah Cotton was graduated at Harvard College in 1698. His early years, after his leaving college, were spent in Marblehead, where he was employed as a schoolmaster; his studies in the mean time were principally in theology. He was never settled, however, in the ministry; but, returning to his native town early in the last century, after some years of occupation in that place as a schoolmaster, he devoted himself to agricultural pursuits and to the discharge of several civil offices which he sustained. The offices which he held successively or in conjunction were those of clerk of the court of common

³⁷Eliot, Indian Grammar, Pickering's supplementary notes, p. 22.

pleas, justice of the same court, register of probate, and register of deeds. . . . This respectable family derives its origin from the celebrated John Cotton of Boston. Josiah Cotton, as well as his father, in addition to their other employments, performed the duties of missionaries to the Indians at Plymouth and other places in that vicinity. The father was eminently skilled in the Indian language, of which there are many testimonials; the most conspicuous is Eliot's Indian Bible. . . .

Josiah Cotton, besides the advantages of much personal intercourse with the Indians, had the benefit of his father's information; and his long continuance as a religious instructor [sic] to the natives, with the ready use of their language, of which he left numerous specimens in writing, may reasonably induce a reliance on the correctness of the present vocabulary which he compiled. . . .³⁸

Pickering, who wrote notes for this 1829 printing of Cotton's manuscript, describes it in these words:

The MS is of the small quarto size, and consists of sixty leaves composing the body of the work, with two other leaves containing a portion of an imperfect Index of English words, which occur in it. The volume is principally in the handwriting of the author himself; but there are numerous additions and corrections in the handwriting of his father. It bears the date of 1707 and 1708, in two or three different places.³⁹

The orthography and apparent pronunciation are the same here as used by Eliot. Pickering comments (p. 6) on Eliot's failure to recognize the existence of "any guttural [sic] or strongly aspirated sound in the language of his day . . ." and then remarks (p. 7) that Dr. Edwards used gh, while in Eliot's and Roger Williams' vocabularies, the corresponding words are written with sh. He concludes that

³⁸Josiah Cotton, Vocabulary of the Massachusetts (or Natick) Indian Language (Cambridge: E. W. Metcalf and Company, 1829), pp. 3-4.

³⁹Ibid., Pickering's "Notice of the Manuscript," pp. 4-7.

it was probable that sh was an attempt, as was Edwards' gh, to represent the gutturals, such as [x] and [ç].

The bulk of this volume consists of Cotton's Vocabulary (pp. 11-99) and an appendix (pp. 100-113, misnumbered p. 112). This appendix contains excerpts from "an Indian Primer, which is believed to be one of those originally published by Eliot . . . " plus four different examples of "The Lord's Prayer" from works by Eliot, an English-Massachusetts version of the Ten Commandments, a bilingual version of a sermon preached by Josiah Cotton to the Massachusetts Indians in 1710, and "extracts from a sermon in English and Indian-- the English part being in the hand-writing of Josiah Cotton, and the Indian in that of his father, John Cotton."

In 1691 a brief work from the pen of Cotton was printed in Cambridge and is still extant in the Yale University Library. This work, Nashauanittue Meninnunk Wutch Mukkiesog,⁴⁰ a question and answer dialog based on the New Testament, is printed entirely in the Indian language, even to the title-page. (See Plate II, p. 34.)

Jonathan Edwards

Chronologically out of place here, but relevant as coming from the pen of a New England writer, is Jonathan Edwards' Observations on the Language of the Muhhekaneew

⁴⁰ John Cotton, Nashauanittue Meninnunk Wutch Mukkiesog (Cambridge: Samuel Green, 1691).

PLATE II

Nashauanittue Meninnunk

W U T C H

MUKKIESOG.

Wusseemumun wutch Sogkodtunganash

Nanceswe TESTAMENTSASH ;

W U T C H

Ukeshichippooonganco Ukkereahogkounooh.

Negonac wustukhūmun ut Englishmānne Unnono;
too waonganit, nashpe ne ānue, wunnegēnē
Nohtompeantog.

Noh asowēsir

JOHN COTTON.

Kah yeuyeu qushkinnūmun en Indiane Unnonroo;
waonganit wutch wōnenchikqunāout INDIANE
MUKKIESOG,

Nashpe

GRINDAL RAWSON.

Wunnauncheunookāc Nohtompeantog ut kenugke
INDIANOG.

Onatub mīshketuog kodtantamok pabke meninnunnūc
Wustinnowaouk, onk wob kenashpekinean. 1 Pet. 2. 2.

C A M B R I D G E :

Printeuop nashpe Samuel Green, kah

Bartholomew Green, 1691.

MD

Indians. This was originally published in 1787⁴¹ and was reprinted as a part of the Massachusetts Historical Collection in 1823, with notes by Pickering.⁴² The "Notes, by the Editor" occupy the bulk of this reprint (pp. 20-73).

Pickering, in the "Advertisement to the Present Edition," writes (pp. 3-4):

. . . This short, but valuable tract, was originally printed in the year 1788, and was afterwards republished; but it is again entirely out of print. The work has been for some time well known in Europe, where it has undoubtedly contributed to the diffusion of more just ideas, than once prevailed, respecting the structure of the Indian languages, and has served to correct some of the errors, into which learned men had been led by placing too implicit confidence in the accounts of hasty travellers and blundering interpreter . . .

The Observations are concerned with the language of the "Muhhekaneew or Stockbridge Indians." The first term is, of course, Edwards' orthography for Mohican, while Stockbridge is a town in Massachusetts. Edwards comments (pp. 6-7) that this Indian dialect was a first language to him. His playmates were Indians, and he writes that "Out of my father's house, I seldom heard any language spoken, besides the Indian."

⁴¹Jonathan Edwards, Observations on the Language of the Muhhekaneew Indians, communicated to the Connecticut Society of Arts and Sciences (New Haven: Josiah Meigs, 1787).

⁴²Edwards, Observations on the Language of the Muhhekaneew Indians. A new edition with Notes by John Pickering. As published in the Massachusetts Historical Collections (Boston: Phelps and Farnham, 1823).

Edwards' phonological comments virtually all occur in the form of footnotes. These observations are not classified and occur only as elicited by certain words or spellings. Commenting on vowel sounds, Edwards footnotes (p. 10) the "Mohegan" word nboo or nepoo with the remark that "The first syllable is scarcely sounded." On the same page, he footnotes the word Tuneh as follows: "Whenever y occurs, it has not the long sound of the English y as in commune; but the sound of y in uncle, though much protracted. The other vowels are to be pronounced as in English." He uses the vowel letters a, e, o, i, u, and y, but the last is used as a consonant. Edwards retains the English spelling habit of the silent final e. He footnotes (p. 9) the word Amisque with the remark that "e final is never sounded in any Indian word, which I write, except monosyllables."

The gh spelling which Pickering comments on (see p. 32) is noted by Edwards in a footnote (p. 9) to the word Nemogghome, where he remarks that "gh in any Indian word has the strong guttural sound, which is given by the Scots to the same letters in the words tough, enough, &c." "Whenever w occurs," he footnotes (p. 8), "in an Indian word, it is a mere consonant, as in work, world, &c."

The value of this work goes beyond the rather scanty phonological observations of Edwards. Edwards seems to have realized more thoroughly than any of his predecessors the fact that various Indian languages were in reality but dialects of the same language, or, were languages belonging to the same family. In respect to the Muhhekaneew language,

he comments that this dialect, called "Mohegan . . . by the Anglo-American," and the Massachusetts dialect are members of the same family (p. 5). Edwards' work, actually, is in part a short comparative vocabulary study. He gives (pp. 6-7) a brief comparative vocabulary of Mohegan and Shawnee, a short vocabulary (pp. 7-8) of Mohegan and "Chippiwau," and (p. 9) a very short list of Mohegan words compared with Mohauk. In regard to the Mohauk, which, he says (p. 9) " . . . is the language of the Six Nations . . . [it] is entirely different from that of the Mohegans. There is no more appearance of a derivation of one of these last mentioned languages from the other, than there is of a derivation of either from the English. One obvious diversity, and in which the Mohauk is perhaps different from every other language, is, that it is wholly destitute of labials; whereas the Mohegan abounds with labials . . ." He remarks (p. 10), concerning the Mohauk, that "When they come to amen, from an aversion to shutting the lips, they change the m to w."

Edwards realizes also that the various orthographies used by different transcribers of Indian languages had obscured the relations between the various dialects and languages. He writes (p. 8):

Almost every man, who writes Indian words, spells them in a peculiar manner: and I dare say, if the same person had taken down all the words above [a short vocabulary], from the mouths of the Indians, he would have spelt them more alike, and the coincidence [of relation] would have appeared more striking. Most of those, who write and print Indian words, use the letter a where the sound is that of oh or au.

. . .

The accuracy of Edwards' comment on the lack of labials in the Mohawk language is supported by Pickering.

Baron La Hontan, in speaking of the want of labials in the Huron language (which belongs to the same family with the Mohawk, mentioned by Edwards) relates the following fact, to show the extreme difficulty, which the Indians of that stock experience in learning the European languages, on account of the labials. . . .

The Hurons and the Iroquois (says he) not having the labials in their languages, it is almost impossible for them to acquire the French language well. I have spent four days in making some Hurons pronounce the labials, but without success; and I do not believe, they would be able to pronounce these French words, bon, fiis, monsieurs, Pontchartrain, in ten years; for instead of saying bon, they would say ouon; for fiis they would say riis; for monsieurs, caonsieurs, and for Pontchartrain, Conchartrain.⁴³

Indeed, Pickering regards the entire work as being of a high order. He regards Edwards as fully qualified, accurate, and thoroughly reliable. He writes in the "Advertisement" (p. 4):

. . . The work, indeed, has the highest claims to attention, from the unusually favourable circumstances, in which the author was placed for acquiring a thorough acquaintance with the language . . . To a perfect familiarity with this dialect (which, it seems, he began to learn at six years of age among the natives) he united a stock of grammatical and other learnings, which well qualified him for the task of reducing an unwritten language to the rules of grammar. But, though he might have relied upon his own knowledge alone, yet so extremely solicitous was he to have to work entirely free from errors, that, lest his disuse of the language for some time might possibly have exposed him to mistakes, he took pains to consult an intelligent chief of the tribe, (who was acquainted with English as well as his native language) before he would commit the work to the press. Rarely indeed does it happen to any man to be so favourable circumstanced for the acquisition of exact knowledge on these subjects; and the present

⁴³Ibid., Pickering's notes, pp. 24-25.

work may accordingly be regarded as a repository of information, upon which the reader can place reliance.

Exception to Pickering's praise was taken, however, by a contemporary reviewer.

That Dr. Edwards greatly overrated his own knowledge of the Mohegan is evident, from his strange assertion, that there are "no adjectives in all their language, unless we reckon numerals, and such words as all, many, &c. adjectives. Of adjectives, which express the quality of substance, I do not find, that they have any."⁴⁴

Inasmuch as this particular reviewer also inveighed against the accuracy and points of view of John Heckewelder, James Fenimore Cooper, Peter Du Ponceau, and others, he may be said to be somewhat biased.

The old idea of an affinity between Hebrew and Indian languages appears in Edwards' Observations, it is true, however. He observes a similarity in prefixes and suffixes, and writes (p. 16) that, besides this similarity, " . . . there is a remarkable analogy between some words in the Mohegan language and the correspondent words in the Hebrew." But, as Pickering remarks ("Notes," p. 42), such slight resemblances could hardly fail to be noticed in an age of Hebrew scholars.

Two other publications should be noted here, in passing. In 1715, William Bradford, a New York printer, issued a book commonly known as the "Mohawk Prayer Book." Its full title is Ne Orhoengene neoni Yogaraskhagh Yondereanavendaghkwa.

⁴⁴"Structure of the Indian Languages," North American Review, April 1828, pp. 357-403, see p. 388.

According to a nineteenth century bibliographer, it is "a small quarto volume, interesting from a linguistic point of view and as one of the earliest efforts of the English to supply the aborigines of New York with printed religious instructions."⁴⁵ The book is simply a translation and offers no phonological data. The same bibliographer records that in 1769 Hugh Gaine, another early New York printer, "completed the edition of the 'Mohawk Prayer Book,' begun by Weyman in 1764."⁴⁶

Campanius, a Swedish Missionary

Belonging to the same linguistic family as the Massachusetts and the Narragansetts were the various tribes of Delaware Indians, the only Indians to be generally known to history by a European name. According to Swanton, they were a member of the Algonquian linguistic stock, " . . . their closest relatives being the Nanticoke, Conoy, and Powhattan Indians to the south and the Mahican, Wappinger, and southern New England Indians on the north . . ."⁴⁷ The Delawares, too, were subjected to considerable attention by missionaries and, consequently, to linguistic investigation of some magnitude. The first such linguistic endeavor was made during the

⁴⁵Charles R. Hildeburn, Sketches of Printers and Printing in Colonial New York (New York: Dodd, Mead and Company, 1895), pp. 12-13.

⁴⁶Ibid., p. 78.

⁴⁷Swanton, op. cit., pp. 48-49.

period of Swedish dominion in that part of America roughly covering present Delaware and the eastern part of Pennsylvania. This was the translation of the Lutheran Catechism made by the Swedish cleric John (or Johannes) Campanius, chaplain to the colonists of New Sweden and zealous missionary among the Indians, for the benefit of the clergy in dealing with the Delawares. Since the Delawares, in common with other Indians, had no written language, Campanius used European orthography, with Swedish sound values for the letters, in most instances.

Campanius was born in Stockholm on August 15, 1601. He studied at the Stockholm "Gymnasium" and afterwards matriculated at Upsala University in 1627, graduating in 1635. According to a modern biographical sketch, he was ordained in 1633 and received an M. A. in 1642. In the same year, he was appointed "to accompany the new appointed Governor, Hohan Printz, to New Sweden. He accepted this offer, because of 'the desire he had, through travel, to get to see foreign countries'."⁴⁸ No doubt there were in those days some missionaries who were lazy and untalented. However, activity among the Indians, including work with the languages, so different from the Indo-European tongues, almost necessarily precluded the survival in the New World of any missionary who was not both energetic and possessed

⁴⁸Isak Collijn, The Swedish-American Catechism, some notes (Uppsala [sic]: Almqvist & Wiksell's Printing Co., Ltd., 1937), p. 9 (bound with Johannes Campanius, Martin Luther's Little Catechism translated into Algonquian Indian).

of some talent. Campanius was apparently well suited to his task. Collijn writes:

Campanius soon became the spiritual guide of the entire colony. He is the most eminent of the Swedish clergy who served New Sweden in its earlier days. He was a particularly zealous worker, and made extensive journeys round about the colony where widely stretched settlements lay, to preach the word of God and perform his ecclesiastic duties. Simultaneously, he studied the country, made astronomic and climatic observations, collected facts concerning the animal and vegetable world, and interested himself in the manners, customs and languages, etc. of the Indian peoples. . . .

Campanius' Indian studies opened a way for carrying out these [missionary] endeavours and won, therefore, both consideration and recognition from the Swedish authorities.⁴⁹

With respect to his translation of "Luther's Little Catechism," this curious little book⁵⁰ has an introduction printed in Swedish using Gothic type, with American place-names and other special names and terms printed in Roman type. The catechism itself is written in Swedish with a translation in the Indian dialect immediately following each passage. Campanius' method of writing in Algonquian was to use Roman characters plus a few special symbols, notably w, apparently used as /u/. It would seem that the phonetic values given to the letters in Swedish were used to represent the Algonquian, wherever possible. No clue is

⁴⁹Collijn, loc. cit.

⁵⁰Johannes Campanius, Martin Luther's Little Catechism translated into Algonquian Indian. Facsimile of the printed edition Stockholm 1696 with some notes by Isak Collijn (Stockholm: Ivar Hæggström's Printing and Publ. Co., Ltd., 1937--Collijn's notes were published separately and issued bound with Campanius' work).

given anywhere in this book as to pronunciation. The tribe among which Campanius labored was called by him the Renappi. Zeisberger, writing of the same tribe in the succeeding century, calls them the Lënni-Lennapé. It may be that Campanius was in error in using here, as well as throughout his translation of the catechism, the letter r rather than l. However, Du Ponceau writes that "The Delaware who inhabited Pennsylvania, while it was under the Swedish dominion, used the r instead of the l. They called themselves Renni Renapé. . . . This race appears to be extinct."⁵¹ It is impossible to say whether this is valid support of Campanius' orthography or if Du Ponceau derived his idea from Campanius, with whose work he was familiar. At any rate, if Campanius was in error, it must be said that he is hardly to be blamed for the misinterpretation, for, as one modern writer says,

. . . [A] peculiarity of the Delaware language (as of many others in North and South America) consists in the non-differentiation between the sounds of l and r. This means that either only an l-sound or an r-sound, or sometimes a sound intermediate between both, is used for either of the liquid consonants . . . In the main, it may be said that the l-sound is more normal, and with few exceptions this sound was usually heard by the Europeans among the North American Indians. . . . ⁵²

⁵¹David Zeisberger, "A Grammar of the Language of the Lenni Lenape, or Delaware Indians." Translated by P. S. Du Ponceau. Transactions of the American Philosophical Society, Vol. III.--New Series (Philadelphia: James Kay, Jun. & Co., 1830), Du Ponceau's footnote, p. 97.

⁵²Nils G. Homer, "John Campanius' Lutheran Catechism in the Delaware Language," Essays and Studies on American Language and Literature, No. III (Upsala: The American Institute in the University of Upsala, 1946), p. 14.

The catechism is followed by a vocabulary in the "Barbaro-Virgineorum" language with Swedish interpretations (p. 133 ff.). There is also a short vocabulary (pp. 155-160) of the Munquessic language. "According to Brinton's *Lenape and their legends*, p. 74," writes Pilling, "the Barbaro-Virgineorum is the Delaware as then current on the lower river; the Mahakuassica, a dialect of the Susquehannocks or Minquas, who frequently visited the Swedish settlements."⁵³

Campanius died in 1683 with the Catechism apparently still in manuscript form, as Collijn writes (p. 12): "The Catechism was . . . not published during Campanius' lifetime but, in the year 1696 . . ." Although this translation did not have the extensive use that Campanius may have hoped, it did not remain entirely a literary curiosity. Collijn writes (pp. 16-17):

Campanius' Catechism was in all probability not put to so much use as the Author in his day, and the publisher, later had hoped. We have direct information, however, that it was used in missionary work among the Indians. The trustworthy Carl Springer, who arrived at Delaware at the close of the 17th century, used it. He read from it to the Indians and instructed their children in it, but it is uncertain as to whether any Indian allowed himself to be baptized or taken into the Lutheran Church. Rudman, one of the clergymen sent out by Svedberg, writes in a letter that the Indians "are very disposed to hearing the Catechism printed in their own language, which our people, as if in their own tongue, are able to read to them . . ."

Later critics and researchers do not deal too kindly with Campanius as a linguist and phonologist, as will be

⁵³James Constantine Pilling, Bibliography of the Iroquoian Language (Washington: Government Printing Office, 1889), p. 24.

seen in Chapter III. Collijn gives this moderate opinion (pp. 19-20):

It is difficult to estimate the value of the translation of the Catechism from a philological point of view. According to Acrelius [commenting in 1759] there are certain faults--for instance, the letter R, which does not exist in the Indian language is replaced by L--but the merits of the translation should not be diminished thereby. . . .

One may note also, in passing, the not unexpected fact that Campanius "seems to have favoured the theory which holds that the Indians originated from the Jews and that their language has affinity with the Hebrew. . . ." ⁵⁴ This affinity seems to have been in the resemblance of a few words in both languages, which Campanius noted.

David Zeisberger

Approximately a hundred years after Campanius lived and worked among the Delaware Indians, another Protestant missionary lived and worked with the same people. This was the Moravian minister, David Zeisberger, who was born in 1721 in a small village in the pasture-lands of eastern Moravia. He came to America in his teens and before long had settled in Bethlehem, Pennsylvania, and begun his life-long missionary work. In the first work written in English dealing with Zeisberger, his biographer, a fellow-Moravian minister, traces the events of Zeisberger's long life (he died in 1808) in detail and with considerable reverence. In the "Preface," he says of Zeisberger, "As a missionary and an Indian linguist

⁵⁴Collijn, pp. 9-10.

(118.)

*Chintika Saccheeman S. Pável Rôe, thaani
cintte malackhickan, thaán Corinth.
Paskan cap.*

Renáckot rõe mochæærick Manetto,
Kónna Saccheeman chintika, chéko pãhw
Wínckan malæckhickan, Kotz matta ock
mitzi, ock Bistun hátte, úska Vinckan ma-
læckhickan.

1. Corinth. 9. v. 14.

LUTH.

Så hafwer Herren
sticket / at the som förkun-
na Evangelium / skola ock
hafwa sin Naring af E-
vangelio.

Thaan Galat. ciutras cap.

Suhwijvan Renappi, chékw quijramen
pæntore malæckhickan, úska Saccheeman
chintika, jãni ock pæta rankúnti suh-
wijvan hærirt chéko hátte, aéppe Sacchee-
man chintika, chéko tirue malæckhic-
kan.

Galat. 6. v. 7.

LUTH.

Then som vnderwijsat
war

(119.)

**warder med ordom / han
dehle alt godt med honom/
som honom vnderwijsar.**

*Taan mochijrick Saccheeman ; matta
chintika Saccheeman.*

*S. Paulus Taan. Rom. Atack nácha cap.
rõe.*

Suhwijvan renáppi, mochij maranijto,
chéko mochijrick Saccheeman, jãni sittane
rõe. Konna, suhwijvan chirõna mochijrick
Saccheeman, hátte chijr úska mochæærick
mochijrick Saccheeman, Hocquæsfungs
ock Hackings hærirt Manetto.

För werldzlig Sswerhet.

Rom. 12. v. 1. 2.

Swar och en ware Ss-
swerhetene / som wáldet
hafwer vnderdånig / ty thet
år ingen Sswerhet / vthan
af Gudi.

LUTH.

H 4

Thaan

he is the peer of John Eliot . . ."⁵⁵

Nevertheless, very little of this biography is devoted to Zeisberger's accomplishments as a linguist. However, in one of the concluding chapters ("The Literary Works of David Zeisberger," pp. 686-692), a list of his works, both published and surviving in manuscript, is given. Here, his biographer writes: "He did more than any other man of his century to develop both the Delaware language and the Onondaga dialect of the Iroquois." Needless to say, all of Zeisberger's literary works were in the interest of the missionary activities of his church, the Moravian. His Essay of a Delaware Indian and English Spelling Book, for the use of the Schools of the Christian Indians of Muskingum River is typical. The original manuscript of this work includes "A Short History of the Bible in both English and Delaware" and reading lessons, chiefly on Biblical subjects. This book was first published by Henry Miller in Philadelphia in 1776. In 1806 there appeared what is presumably a second edition of the 1776 publication. The full title of this later work is: Delaware Indian and English Spelling Book, for the Schools of the Mission of the United Brethren; with Some Short Historical Accounts from the Old and New Testament, and other Useful Instruction for Children.

Zeisberger uses, for the most part, a German respelling

⁵⁵Edmund de Schweinitz, The Life and Times of David Zeisberger (Philadelphia: J. B. Lippincott & Co., 1870), p. 111.

of the Delaware language. His comments on orthography and phonology are given on a page titled "For the Information of the Reader."⁵⁶ There, he writes:

The Persons who attend the Indian Schools, for the Use of which this Spelling Book is chiefly designed, finding the Sound of German Letters easier to the Indians for their Language, than the English, have adopted the former.

The Indian Words are all spell'd as the Latin or German, and every Letter is pronounced.

W, before a Consonant, is nearly pronounced as uch, when the Letter u almost loses its Sound.

Oa, is pronounced together, and the Sound of the two Vowels so mixed, that the Hearer cannot well distinguish the one from the other.

Hh, two Consonants, are frequently used in the Middle of a Word, and pronounced somewhat like uch, but more like the Greek χ .

The Delaware Indians have no F and no R in their Language.

One wonders if the sound of W, as Zeisberger indicates above, was the "whistled w" which Heckewelder and Du Ponceau later discussed. With respect to Zeisberger's statement that the sound [r] does not exist in Delaware, it should be noted that the liquid used by these Indians, whatever it was, was heard as [l] by some Europeans and as [r] by others. There was also, undoubtedly, an intermediate sound or one which varied from [l] to [r], according to phonetic environment.

The remainder of this book discusses and gives drill material on first letters, then simple syllables, words of

⁵⁶David Zeisberger, Delaware Indian and English Spelling Book (Philadelphia: Press of Mary Cist, 1806), p. 3.

one syllable, words of two syllables, phrases, etc. There is also a "Short History of the Bible" and other instructive readings. Below is a sample selection⁵⁷ from "Compound Words of Two Syllables."

Ab tschi, <u>always</u> .	Ach poan, <u>Bread</u> .
Ach gook, <u>a Snake</u> .	Ach quil, <u>put on</u> .
Ach pil, <u>stay, abide</u> .	Ach sin, <u>a Stone</u> .
Ach pihn, <u>to be some-</u>	Ach tu, <u>a Deer</u> .
<u>where</u> .	Ach won, <u>strong, spi-</u>
Ach po, <u>he is there, or</u>	<u>rituous</u> .
<u>at home</u> .	A has, <u>a Crow</u> .

Various sermons and hymns were translated from German into Delaware by Zeisberger; and, according to his biographer (de Schweinitz, p. 691 ff.), a manuscript copy of a seven volume Deutsch und Onodagaisches Wörterbuch exists, as does a shorter introductory grammar to the same Indian language, apparently written in English. Also listed, no date given, is an Onodagaische Grammatica. De Schweinitz refers to it as "A complete grammar of the Onondaga language." He adds: "This work was translated into English by Peter S. Duponceau, LL. D., a Vice-President of the American Philosophical Society, which version, however, also remains in manuscript." In 1887 there appeared Zeisberger's Indian Dictionary, printed from the original manuscript in the Harvard College Library and owing its existence to Eben Norton Horsford. He writes:

It was no part of my purpose to edit such a work. My supreme wish was to render it impossible that such precious result of the labor of a lifetime . . . should be wholly lost. . . .
I have not ventured upon the task of altering, or

⁵⁷Ibid., p. 9.

restoring, or filling out, in any instance. . . .

My aim has been to preserve the Dictionary of the venerated Moravian missionary precisely as he left it, with its somewhat eccentric English and somewhat antiquated German,--now and then written when possibly he was greatly fatigued, now and then perhaps without a maximum of care, now and then with the aid of a friendly hand,--copying always, as nearly as the type would permit, the manuscript as it came into my possession.⁵⁸

This is a simple dictionary of definitions of words and phrases. It is arranged in four parallel columns: English, German, Iroquois or Onondaga, and Algonquian or Delaware. Pronunciation is indicated by spelling, with German values for most of the letters, and by diacritical markings, including the tilde with an unspecified value, possibly indicating nasalization. Below is an example, chosen at random.⁵⁹

English	German	Onondaga	Delaware
cat.	eine Katze	Tagùhs	Tschínque, Niánque,
Pol Cat.	Fiss Katze		Túshūs, sschkaák,
" "	marder	Tschoeranha	

A store of Zeisberger's original manuscripts preserved at the national headquarters of the Moravian Church in Bethlehem, Pennsylvania, provided the material for his History of the Northern American Indians, published in 1910. This volume is a verbatim translation of various notes left by Zeisberger. The editors write:

⁵⁸Zeisberger, Zeisberger's Indian Dictionary (Cambridge: John Wilson and Son, University Press, 1887), "Preface," pp. iv-v.

⁵⁹Ibid., p. 33.

The name of this volume, "History of the Indians," was not given to the manuscript by its author, but, by the Bishop De Schweinitz. Zeisberger, had he named it, would probably have called it, "Notes on the History, Life, Manners, and Customs of the Indian," and the most casual reader will recognize from the mode of presentation and the occasional repetitions that the manuscript is in the form of notes. . . .⁶⁰

Zeisberger writes at some little length (pp. 141-142) on the relation between the various Indian languages, recognizing that many seemingly dissimilar languages were but dialects of the same language. He concludes that: "It appears . . . safe to affirm that there are but two principal languages spoken by the Indians of North America, namely the Mingoes and the Delaware [Iroquois and Algonquian]. Concerning the nations who live along the Mississippi I have no certain knowledge . . ." He shrewdly comments (pp. 143-144) on a salient feature of Indian languages:

The pronunciation of their language is easy, only the Ch is a very deep guttural [sic]. The greatest difficulty is presented by the compounding of words with verb, substantives and adjectives, which is very difficult for a European to learn. They have few monosyllables. In things relating to common life the language of the Indians is remarkable rich. They, in many cases, have several names for one and the same thing under different circumstances. They have ten different names for a bear, according to its age or sex. Similarly, they have a number of names for a deer. They have one word for fishing with a rod, another for fishing with a net, another for fishing with a spear or harpoon. Such words do not in the least resemble one another. . . .

The writings of David Zeisberger were of immense im-

⁶⁰Archer Butler Hulbert and William Nathaniel Schwarze, editors, David Zeisberger's History of the Northern American Indians (Ohio State Archaeological and Historical Society, 1910), p. 7.

portance to later philologists. Du Ponceau, especially, made much use of Zeisberger's work. His evaluation as "the peer of Eliot" is perhaps not unmerited. Pilling quotes the following estimate:

The principal authority on the Delaware language is the Rev. David Zeisberger, the eminent Moravian missionary, whose long and devoted labors may be accepted as fixing the standard of the tongue.

Before him no one had seriously set to work to master the structure of the language and to reduce it to a uniform orthography. With him it was almost a life-long study, as for more than sixty years it engaged his attention. To his devotion to the cause in which he was engaged, he added considerable natural talent for languages, and learned to speak, with almost equal fluency, English, German, Delaware, and the Onondaga and Mohawk dialects of the Iroquois.⁶¹

Zeisberger's pronunciation is generally accepted as accurately transcribed, except, of course, that he had the usual tendency to hear what one is used to hearing or expects to hear. Du Ponceau, writing of the difficulty that Europeans have in correctly hearing Indian sounds, relates the difficulty that he and an intelligent and well-educated Iroquois had in deciding between [k] and [g] in the Indian's language. They decided on [k], but, he says, "Dans les livres imprimés, les missionnaires se servent indifféremment de ces deux lettres. Zeisberger avoue ingénûment dans son abécédaire lénâpé, que son imprimeur n'ayant pas assez de K, il a été obligé d'y substituer la lettre G. Zeisberger était Allemand."⁶² Brinton, praising the orthography used by

⁶¹Pilling, Bibliography of the Algonquian Language (Washington: Government Printing Office, 1891), pp. 547-548, quoting Brinton, Lenape and Their Legends, pp. 47-48.

⁶²Du Ponceau, Mémoire, p. 100.

Zeisberger, points out a few flaws:

The German alphabet, employed by the Moravians to reduce it [Delaware] to writing, answered so well that the Moravian missionary, Rev. Mr. Hartmann, at present in charge of the New Fairfield Reservation, Ontario, who does not understand a word of Delaware, told me he had read the books printed in the native tongue to his congregation, and they understood him perfectly. But I soon detected two or three sounds which had escaped Zeisberger and his followers. There is a soft th which the German ear could not catch, and a kth which was equally difficult, both of frequent occurrence. There is also a slight breathing between the possessives n', my, k', they, w', his, and the names of the things possessed, which the missionaries sometimes disregarded, and sometimes wrote as a full vowel. . . .⁶³

In 1888, the Archives of the Moravian Church at Bethlehem proved the source of another book on the Delaware language. This was A Lenâpé-English Dictionary, by Daniel Brinton and Albert Seqaqkind Anthony. The Moravians, beginning in 1740, worked for about a century for the civilization and conversion of portions of the Lenâpé or Delaware Indians. The anonymous manuscript from which this dictionary was compiled represents one of the many attempts made by these devout men to reduce the Indian tongue to writing. Brinton, who wrote the "Preface," hazards that this dictionary was the work of Rev. C. F. Dencke, " . . . missionary to the Delaware at New Fairfields, Canada, for a number of years after the war of 1812. He was the author of a grammar of the tongue, now apparently lost, and translated into it various portions of the New Testament. His death took place

⁶³Daniel G. Brinton, Essays of an Americanist (Philadelphia: Porter & Coates, 1890), pp. 189-190.

in 1839."⁶⁴ The following remarks concerning the pronunciation of the Lenâpé language (p. vi f.) must be considered as having some degree of authority, as Mr. Anthony, the co-editor, was himself a Delaware.

As is well known, the early Moravians were exclusively Germans; and in reducing the Lenâpé to a written idiom they made use of the German alphabet, without adding to it any phonetic signs. This alphabet was not ill adapted for the purpose. It could represent the gutturals [sic] and the vowel sounds of the Lenâpé with sufficient clearness. But there were a few sounds, and these frequent and important ones, which their German ears did not differentiate.

The most prominent of these is the soft th, as in with. This is usually represented in the Dictionary by s. The true sibilant is, in reality, very rare; it scarcely exists. The soft th again appears wherever the Dictionary has an x; this is properly k'th.

The h is not a true aspirate, as in German, but rather a pause, as in the French la Hollande.

The terminal k is a strong, suddenly-checked expiration, which is, by some writers, not inaptly expressed by q' or q!. Instead of the k, the Dictionary sometimes employs que, which appears to be identical in sound.

The labial b is very like a p, and probably alternates with it in the dialects.

The g is always hard, like the English k; the j has the value of the English y; the compound ey is like the long i in pine; the syllables gan and quan are pronounced alike; and the diphthong eu has, at least in the Minsi [the dialect of Delaware spoken in 1888 by the colony at Six Nations Reservation, in Ontario, Canada] of today, the value of o in note.

John Heckewelder

A co-worker of Zeisberger and, in a sense, his successor, was John (or Jean) Heckewelder. He, too, was of Moravian descent, although born in England in 1743. Ten years later

⁶⁴Brinton and Albert Seqaqkind Anthony, A Lenâpé-English Dictionary (Philadelphia: The Historical Society of Pennsylvania, 1888), pp. iv-v.

he went with his parents to Bethlehem, Pennsylvania, where there was a Moravian Indian mission. Young Heckewelder desired to become an evangelist to the Indians and took his first post in 1762. In one way or another, he spent the remainder of his life in this service, dying in 1823.⁶⁵

The most important literary work of Heckewelder is his Indian History, Manners and Customs, brought out in 1818 and later, in a revised edition, as History, Manners, and Customs of the Indian Nations Who Once Inhabited Pennsylvania and the Neighbouring States, in 1876. It was "translated into German by Father Hesse, a clergyman of Nienburg and published at Göttingen in 1821," according to prefacing notes to the 1876 edition. Later, in 1822, a French translation by Du Ponceau appeared in Paris, according to the same notes.⁶⁶ The "Indian Nations" of the title were, of course, the Delaware, among whom Heckewelder spent most of his adult life. This revised edition has an introduction and notes by Rev. William C. Reischel, of Bethlehem, a Moravian minister. Actually, the book is of

⁶⁵John McNair, "Map and Description of Northeastern Ohio, by Rev. John Heckewelder, in 1796," Western Reserve Historical Society, Tract 64; Reprinted from the Magazine of Western History (Cleveland: William W. Williams, 1884), pp. 335-340.

⁶⁶John Heckewelder, History, Manners, and Customs of the Indian Nations Who Once Inhabited Pennsylvania and the Neighbouring States, revised edition (Philadelphia: Publication Fund of the Historical Society of Pennsylvania, 1876, Vol. XII of the Memoirs of the Historical Society of Pennsylvania), p. xiii.

comparatively little importance linguistically or phonologically. It did, however, touch off a controversy with respect to the merits and dependability of Heckewelder's observations which continued sporadically for over forty years. The first review of the book praised it in unequivocal terms. It is described as "an account of the traditions, manners, and customs of the Indians of the Lenni-Lenape, or Delaware nation, drawn up by a careful observer, who had resided among them many years in the character of a christian missionary. . . ."⁶⁷ The anonymous reviewer goes on to say (p. 178):

. . . The work abounds in facts and anecdotes, calculated not merely to entertain the reader, but to lay open, in the most authentic and satisfactory manner, the character and condition of this people. There is no other work extant, in which this design has been so fully accomplished. There is no work upon the North American Indians, which can bear any comparison with it for the means of correct information possessed by the author, or for the copiousness of its details. . . .

A later reviewer, however, accuses Heckewelder of romanticizing the character and history of the Indian. This critique was made partly on the basis of an exchange of correspondence between Heckewelder and Du Ponceau. The review brought heated replies from Du Ponceau, Pickering, and William Rawle. This controversy will be considered in detail in Chapter III of this study. The exchange of letters between Heckewelder and Du Ponceau appears in volume one of

⁶⁷"Heckewelder's Indian History, Manners, and Customs," North American Review, June 1819, p. 156.

the Transactions of the American Philosophical Society and also as Part II of the revised edition (1876) of Heckewelder's History, Manners, and Customs, etc.

Recapitulation and Comment

The investigation of North American Indian languages falls into three periods: first, the primarily practical and isolated instances which we have just reviewed; second, the more coordinated researches of the early nineteenth century, based on the earlier investigations and the various vocabularies collected during this second period, and culminating in the surveys of Albert Gallatin; and, third, the activity of the last hundred years, ranging from the research of Franz Boas to more recent work by Leonard Bloomfield, Kenneth Pike, Harry Hoijer, and F. G. Lounsbury, to mention only a few. It is interesting to note that the earliest work in the Indian languages was largely motivated by the missionary spirit and that much of the latest work has been sponsored by the American Bible Society.

The early investigations of the Colonial period are important because they provided both sources and inspiration for the researchers of the early nineteenth century, notably Du Ponceau and Pickering, and later, Gallatin. Part of their value lies in the fact that Eliot, Cotton, et al, lived on intimate terms with the Indians and were thus able to obtain first-hand information. An obvious weakness is the frequent linguistically and phonetically naive approach of the writers. This is hardly unexpected.

They were brought into contact with languages which did not conform in structure to the Indo-European languages with which they were familiar. Even the very sounds of the languages were, in some respects, different. It was natural that the early missionaries should attempt to analyze the Indian languages according to familiar concepts. This weakness was realized during the second period which we have designated. An anonymous reviewer, writing in 1828, comments:

The grammarians who have treated of our Indian languages, have fallen into the error, too common in all philological investigations, of forming their principles upon preexisting models, and of transferring to these tongues rules of syntax, derived from, and applicable to, different "plans of ideas." A rigid analysis, however, will generally show, that, excepting those elements of universal grammar which are common to all tongues, because they are essential either to the objects of speech, or to their attainment, the Indians are possessed of languages, having no affinity, either in their etymology or construction, to any others which are known to us.⁶⁸

A twentieth century writer observes more concisely:

. . . It was typical of the early studies of the native languages of America that all grammatical analysis was made according to the pattern of the classical languages, a circumstance that caused much complexity and led to much unnecessary misunderstanding. . . .⁶⁹

The same writer gives a clear exposition (pp. 12-15) of some of the phonetic difficulties encountered by the early writers. Speaking of the differences between the European and Indian vowel and consonant systems, he writes:

⁶⁸"Structure of the Indian Languages," p. 396.

⁶⁹Holmer, op. cit., p. 11.

The divergencies between the Indian and the European languages are partly of a phonetic, partly of a purely grammatical or syntactic nature. The system of sounds in those Indian tongues which have not been too strongly affected by European influence, hardly agrees with that of the European languages on any single point. As to the Algonquian languages, we find, for example, four fundamental vowels instead of the five found in most languages of Europe, this owing to the fact that the sounds of o and y are as a rule not differentiated. In Delaware, at the time of Campanius, an intermediate sound was used, which usually resembled the English vowel written oo, German u, Swedish o. Nevertheless, Campanius does not represent this sound by the vowel sign o, as one might expect, but by a special type (the Greek \omicron). This might lead us to think that, in the seventeenth century, Swedish o still retained its older value of continental o. Zeisberger, for instance, uses a plain y to represent the same sound (which evidently resembled the German y in the eighteenth century. . . .

On the other hand, the Delaware language had one or two mixed vowel sounds, which were very differently represented in writing, by English writers usually by y (=short English y), but also by a, o or other vowels; Zeisberger occasionally uses the German ü, while Campanius uses a, æ, e, o, y, according to the special shade in every separate case. . . . There is a general tendency in these languages [Indian] to avoid sonant consonants, and this is particularly true of what we call stop consonants. Thus while most European languages differentiate between the sound of k', p', t', on the one hand, and those of g, b, d, on the other, most Indian languages make the distinction between aspirated (k', p', t') and non-aspirated (k, p, t) sounds, that is, k' and k are differentiated much in the same way as k and g in certain German dialects. Most European writers, however, have found it almost impossible to distinguish between these two series of consonants, which they sometimes hear as k, p, t, sometimes as g, b, d, and so they may occasionally speak of an alternation in a grammatical sense between voiced and voiceless consonants in the Indian languages. In Delaware, there seems to exist at least no functional distinction between the two series of stops (although both may be found); the latter are thus truly intermediate between voiced and voiceless sounds, and so the corresponding written characters are used indiscriminately by most authors. . . .

Under the circumstances, considering the problems with which these early writers were faced, and considering their

lack of specialized training, it is to their credit that their work was, in fact, both practical for their immediate use and valuable for later research. The lack of a consistent and well-designed orthography was later to occupy the time and thought of John Pickering and will be considered in Chapter III of this study.

CHAPTER II

THE GENTLEMEN SCHOLARS

The preceding chapter was concerned with early American phonology as related to the languages of the North American Indians. The researchers and writers in this field, in pre-revolutionary America, were mainly missionaries, and their scholarly pursuit of knowledge was secondary to their pursuit of knowledge to be used as a tool in the conversion of Indians to Christianity. In the nineteenth century, the missionaries continued their attention to Indian languages; however, scholars both in America and in Europe were also turning to the investigation of the many languages of the New World. This channel of phonological activity is discussed in the third chapter of this study. In this present chapter, however, attention is directed to the work of scholars in connection with the phonology of languages other than Indian.

Life in post-revolutionary America was not conducive to the existence of the scholar as such. The commercial and political demands of the newly created United States were too pressing. The influence of the frontier was too pervasive. Scholarship was necessarily a spare-time activity,

squeezed into the busy life of a statesman, a politician, a jurist, a clergyman, a teacher. There were no professional scholars, so to speak--certainly no professional philologists or phoneticians. These were to wait for a more specialized age. Even the writers of grammars and dictionaries could not qualify, at this time, in that respect. So philology and scholarship in general were the often zealously pursued avocation of well-educated men, busy in other fields. This chapter considers some of these "gentlemen scholars," using the term with the connotation of the non-professional.

Benjamin Franklin

The career of Benjamin Franklin bridges the pre-revolutionary and post-revolutionary eras of this nation. Few men in history have had so many productive years and so many varied interests. In these pages, he is considered as a phonologist, which he was in a real sense. His activities in this field were not extensive. The principal document relating to phonology is the "Scheme for a New Alphabet and Reformed Mode of Spelling," which apparently was written in 1768. It should be realized at the outset that this was not, in all probabilities, a serious essay into phonology, but rather a manifestation of Franklin's continued awareness of the inconsistencies and difficulties of English spelling. This is not to say that Franklin's "Reformed Alphabet" was a spur-of-the-moment enterprise in its entirety, for undoubtedly Franklin had given not a little thought to it.

However, it must be admitted that the alphabet was inadequately developed, imperfectly used and soon abandoned by its author. Nevertheless, it is important, not only in indicating eighteenth century pronunciation, but in itself as an indication of Franklin's phonetic acuity and as a pioneer attempt at phonetic representation of the sounds of English.

A review of this alphabet deals with much-covered ground. Carl Van Doren,¹ William Angus,² Kemp Malone,³ George Philip Krapp,⁴ Charles H. Grandgent,⁵ Alexander J. Ellis,⁶ and C. M. Wise⁷ have been among those who have considered at greater or less length this essay of Franklin's.

¹Carl Van Doren, Benjamin Franklin (New York: The Viking Press, 1938), pp. 425-428.

²William Angus, "Poor Richard's Alphabet and His Pronunciation," Speech Monographs, II, 1935, pp. 60-70.

³Kemp Malone, "Benjamin Franklin on Spelling Reform," American Speech, I, 1925, pp. 96-100.

⁴George Philip Krapp, The English Language in America (New York: Appleton-Century Company, 1925), Vol. II, p. 50 ff.

⁵Charles H. Grandgent, "From Franklin to Lowell," Publications of the Modern Language Association, XIV (New Series, VII), 1899, pp. 206-239.

⁶Alexander J. Ellis, Early English Pronunciation, Part IV (London: Asher & Co., and Trübner & Co., 1874), pp. 1058-1063.

⁷C. M. Wise, "Benjamin Franklin as a Phonetician," Speech Monographs, XV, 1948, pp. 99-120.

Its first appearance, according to Wise (pp. 99-100), was as part of a London publication in 1779, Political, Miscellaneous and Philosophical Pieces by Benjamin Franklin, edited by Benjamin Vaughan. The reprint used for reference here appears in Volume Six of Jared Sparks' ten volume Works of Benjamin Franklin.⁸ The editorial notes frequently quoted by Sparks are signed "B. V." The symbols used in Sparks' reprint are identical with Franklin's, with the exception, as Wise points out (p. 100), of the substitution of short s for the long s.

A primary interest of most writing in any treatment of this "Reformed Alphabet" has been to establish the pronunciation used by Franklin and to determine of what section and of what time his speech would be representative. Such is not the purpose here. In this study, the primary point of interest lies in the "Reformed Alphabet" as a method of indicating the sounds of English speech, viz., those of Franklin himself and of his London friend, Miss Mary Stevenson. What sounds Franklin meant cannot always be satisfactorily determined. Wise treats of this aspect in detail. Ellis in considerably less detail. Malone's

⁸Benjamin Franklin, "A Scheme for a New Alphabet and Reformed Mode of Spelling," The Works of Benjamin Franklin, Jared Sparks, editor, Vol. VI (Boston: Tappan & Whittemore, 1838), pp. 293-303.

account is superficial.⁹ That Franklin's scheme is worthy of consideration as a system of phonetic notation is evident. Ellis states:

Dr. Franklin's scheme of phonetic writing, though hasty and unrevised, is too interesting to be omitted. His correspondence with Miss Stephenson [sic] contains a common sense, practical view of the necessity and usefulness of some phonetic scheme, and gives short convincing answers to the objections usually urged against it. The spelling would have required careful reconsideration, which it evidently never received. . . .¹⁰

As will be observed (see Plate IV, p. 66¹¹), Franklin uses 26 characters, a self-imposed limitation which may have caused over-compression and over-simplification. The first seven represent vowels. Franklin designates (Sparks, p. 298) the first eight, thus including the sound called huh ([h]), as a logical grouping: "It is endeavoured," he writes, "to give the alphabet a more natural order; beginning first with the simple sounds formed by the breath, with none or very

⁹Malone, writing of such errors in transcription as Franklin's use of [s] for [z] in plurals, says (p. 100): "Such errors are of the hand. An error of another kind is the respelling kalm. The retention of the l here is probably deliberate, inasmuch as Franklin regularly retains the l in transcribing other words where today it is mute, as could, would. Yet it is highly unlikely that Franklin pronounced the l in any of these words. He thought he did, of course, but his ear played him false." This is certainly a rash assumption on the part of Malone. See p. 73, this chapter.

¹⁰Ellis, p. 1058.

¹¹The numbers on the left-hand margin of each of the pages reproduced on Plate IV were not originally on the pages, but were written in for convenience of reference.

TABLE OF THE

	Character	Sounded respectively, as in the words in the column below.
1	o	Old.
2	a	John, folly; awl, ball.
3	ā	Man, can.
4	e	Men, lend, name, lane.
5	i	Did, sin, deed, seen.
6	u	Tool, fool, rule.
7	y	um, un; as in umbrage, unto, &c., and as in <i>er</i> .
8	h	Hunter, happy, high.
9	g	Give, gather.
10	k	Keep, kick.
11	ſh	(sh) Ship, wish.
12	ſg	(ng) ing, repeating, among.
13	n	End.
14	r	Art.
15	t	Teeth.
16	d	Deed.
17	l	Ell, tell.
18	s	Essence.
19	z	(ez) Wages.
20	h	(th) Think.
21	h	(dh) Thy.
22	f	Effect.
23	v	Ever.
24	b	Bees.
25	p	Peep.
26	m	Ember.

REFORMED ALPHABET.

	Letters of Latin Alphabet expressed in the Reformed Sounds and Characters	Manner of pronouncing the Sounds.
1	o	The first Vowel, naturally, and deepest sound; requires only to open the mouth, and breathe through it.
2	a	The next requiring the mouth opened a little more, or hollower.
3	ā	The next, a little more.
4	e	The next requires the tongue to be a little more elevated.
5	i	The next still more.
6	u	The next requires the lips to be gathered up, leaving a small opening.
7	y	The next a very short vowel, the sound of which we should express in our present letters thus, <i>uh</i> ; a short, and not very strong aspiration.
8	huh	A stronger or more forcible aspiration.
9	gi	The first Consonant; being formed by the root of the tongue; this is the present hard <i>g</i> .
10	ki	A kindred sound; a little more acute; to be used instead of the hard <i>c</i> .
11	ish	A new letter wanted in our language; our <i>sh</i> , separately taken, not being proper elements of the sound.
12	ing	A new letter wanted for the same reason:— These are formed back in the mouth.
13	en	Formed more forward in the mouth; the tip of the tongue to the roof of the mouth.
14	r	The same; the tip of the tongue a little loose or separate from the roof of the mouth, and vibrating.
15	ti	The tip of the tongue more forward; touching, and then leaving, the roof.
16	di	The same; touching a little fuller.
17	el	The same; touching just about the gums of the upper teeth.
18	es	This sound is formed by the breath passing between the moist end of the tongue and the upper teeth.
19	ez	The same, a little denser and duller.
20	eh	The tongue under, and a little behind, the upper teeth; touching them, but so as to let the breath pass between.
21	eh	The same; a little fuller.
22	ef	Formed by the lower lip against the upper teeth.
23	ev	The same; fuller and duller.
24	b	The lips full together, and opened as the air passes out.
25	pi	The same; but a thinner sound.
26	em	The closing of the lips, while the <i>e</i> [here annexed] is sounding.

little help of tongue, teeth, and lips, and produced chiefly in the windpipe." By "windpipe" he apparently means "larynx" (see Wise, op. cit., p. 113). He then progresses forward from velum to lips. The next group are the sounds g and k, ". . . those, formed by the roof of the tongue next to the windpipe." Next are ". . . those, formed more forward, by the fore part of the tongue against the roof of the mouth." These are r, n, t, and d. The sounds indicated by l, s, and z are described as ". . . formed still more forward, in the mouth, by the tip of the tongue applied first to the roots of the upper teeth." The next grouping is the two symbols used for [θ] and [ð] (lines 20, 21, Plate IV, p. 66). These are ". . . formed by the tip of the tongue applied to the ends or edges of the upper teeth." The labio-dentals, f and v, are ". . . formed still more forward, by the under lip applied to the upper teeth." The sounds represented by b and p are ". . . formed yet more forward, by the upper and under lip opening to let out the sounding breath." the bilabial nasal is the last sound described, made ". . . with the shutting up of the mouth, or closing the lips, while any vowel is sounding."

The above (Sparks, p. 298) is a reasonably accurate description, along with the remarks contained in his "Table," of most of the speech sounds of English, excepting the vowels. The vowels, of course, gave Franklin the most trouble in his descriptions, and, as one might expect, have given the most difficulty in subsequent analyses of his phonetic alphabet.

Franklin's terminology, as Wise observes, is not exactly scientific. In discussing the vowels, he uses such terms as "deepest," "hollower," and (ambiguously) "aspiration." Attempts to pin down Franklin's sounds exactly through an analysis of his transcriptions of two stanzas from Addison's Campaign, his letter to Miss Stevenson and her reply are at least partly thwarted through apparent inconsistencies in the notation, made through haste, lack of thought, lack of analysis, or through downright error. However, as Ellis comments (p. 1062), "Several of the errors here copied may be due to his printer, and cannot be corrected by the original MS." Wise has an extended and careful analysis of these transcriptions. The problem of length also bedevils the analyst. Wise writes:

Franklin, like many of his time and for a long time after, even to this day, was confused on the subject of length. It is hard to know whether he had specifically in mind the meaning of duration, when he used long and short, or whether he used the terms to indicate vowels acoustically different to the degree of being regarded as entirely different vowels--i. e., belonging to entirely different phonemes. Probably there was something of both ideas in his mind, with perhaps the latter predominating.

Franklin's Vowels

The vowel sounds in Franklin's speech and consequently as revealed in his phonetic alphabet and accompanying comments are probably as shown in the following. IPA notations are given in brackets. Parenthetical references are to page numbers of the "Reformed Alphabet" as found in Sparks, Vol. VI and/or line numbers as indicated on Plate IV, p. 66.

[i] and [ɪ]--here, as in other cases, one symbol is used (line 5, Plate IV), but Franklin uses a doubled symbol for a "long" vowel: "As to the difference between short and long vowels, it is naturally expressed by a single vowel where short, a double one where long . . . for "did," write "did," but for "deed," write "diid," &c." (P. 299.)

[e] and [ɛ]--again, one symbol is used (line 4), which, with inconsistent transcription, leads to confusion. Wise indicates [e:] and [ɛ], but points out the possibility of [ɛ:], [ɛ]. He also comments: "In fairness to Franklin, it ought to be said that the sound [ɛ] is much harder to distinguish from a monophthongal [e] of brief duration than from any sort of diphthongal [eɪ]. In other words, the [e] and [ɛ] of Franklin's time were acoustically much closer together than the [eɪ] and [ɛ] of our time." (Wise, p. 117.)

[æ]--the key words here are man, can (line 3). Wise argues that Franklin had neither [a] nor [ɑ] in his speech, and certainly the evidence seems to support this.

[ɒ] and [ɔ]--since the [ɑ] pronunciation of "short o" was not standard in 18th century British speech, it seems reasonable to believe that John, folly (line 2) were pronounced with [ɒ] and awl, ball, with [ɔ].

[o]--in connection with this (and [e]), Wise remarks: "There seems no doubt that Franklin used the single, or pure vowel . . ." (Wise, p. 115). Wise also points out that Franklin did recognize the other three diphthongs of modern English.

[u]--disconcerting though it may seem, there is no indication that Franklin used [u].

[ʌ] and [ə]--although Franklin apparently did not fully grasp the concept of unstressing, the symbol ʌ (line 7) is obviously used for both [ʌ] and [ə].

Franklin recognizes the following diphthongs.

[ʌɪ]--What in our common alphabet is supposed the third vowel, i, as we sound it, is as a diphthong, consisting of two of our vowels joined . . . The first element is that of the vowel e, the second is that of "e in the words 'deed, keep' . . ." (P. 299.) In transcription, the

second element transcribed as i, definitely IPA [i].

[ou]--this diphthong, modern [au], is mentioned neither in the "Table" nor in the accompanying remarks, but is transcribed in the letter to Miss Stevenson, in such words as down, thousands, pronounce, with the second and sixth symbols of the "Table."

[oi]--this diphthong, which the present-day phonetician usually transcribes as [ɔi], occurs only twice in Franklin's transcription, both times being the same word, destroyed. Here a curious triphthong, equivalent to [ɔai] is used. Wise reasonably assumes (p. 118) this to be an error and the correct transcription to be with the second and fifth symbols.

[iu]--there is no ambiguity here: Franklin transcribes such words as furious, pure, useless, with the fifth and sixth symbols. Since he uses i for [j], one would assume the diphthong in such words as furious, pure, etc., to be either [ju] or [iu] and the first syllable of useless to be [ju]. Probably the diphthongal sound varied from [ju] to [iu], much as in modern English.

A few comments on the vowel sounds indicated in the preceding are in order.

Apart from the confusion concerning [e] and [ɛ] in Franklin's speech, confusion also exists, as has been indicated, concerning the sounds signified by the symbols on line 3 and line 6 (see Plate IV, p. 66). On line 6 is the symbol u, with the key words of tool, fool, rule, all having the vowel usually thought of as [u]. However, in both Franklin's and Miss Stevenson's transcriptions, such words as true, do, two, would, books, look, and should are all rendered indiscriminately with u. Wise says (p. 118): "All the modern interpreters of Franklin, from Ellis onward, appear to yield to the belief that Franklin used [u] in

both rule and book. Pending further study, there seems little else to do." On line 3 is the symbol a, with the key words man, can, both having the vowel [æ] in modern English. Wise presents the following analysis (p. 116):

. . . He uses this symbol also for the principal vowel in the so-called "broad-a" words of our time, such as command, past, blast, and lasting, as well as with calm and hardly. One would like to believe that Franklin adheres strictly to the principle of one sound per symbol and one symbol per sound, save where he uses the same symbol single and double for what he terms short and long; we should like to think he does not violate this principle in order to hold his maximum number of symbols to twenty-six; and above all, we should like to believe that his admittedly good ear was infallible. But when he uses the symbol under discussion in transcribing Fr. jamaïs, our confidence is a little shaken. The French sound was probably never exactly [æ], even though Walker matches Franklin by equating the vowels of English fat and marry with French fat and matin. We are tempted to suspect that in Franklin's mind the two vowels were [æ] and [a]. The later development of large and hardly suggests that they might have been [lɑrd₃] and [hɑrdl₁]; that would permit [ʒa'mæ]; but all the other evidence, including the opinion of all the commentators, contemporary and later, point to [æ] as the sole sound for all these words. Franklin's English seems, then, to have had no [a], and certainly no [ɑ]. . . .

It is easy to share Wise's suspicions that Franklin's vowels were indeed [æ] and [a]. It is quite possible that Franklin did not adhere strictly to the principle of one sound per symbol and one symbol per sound. An example is the case of the consonants y and w. Here, Franklin seems to have decided, perhaps for reasons of economy of symbols, to use only one symbol for both the vowel /i/ and the consonant [j] and for both the vowel /u/ and the consonant [w]. There is, of course, logic in this, for, as Franklin recognizes, the consonant [j] has elements of the vowel sound

ranging from [i] to [ɪ] and the consonant [w] has elements of the vowel sound ranging from [u] to [ʊ]. However, as Franklin speaks of the "vowel u, being sounded as oo . . ." it would seem reasonable to assume that he did not hear either [i] or [ɪ] as identical with [j] or [u] as identical with [w]. Further, it is quite possible, even probable, that Franklin's ear was not infallible.

Franklin's Consonants

Franklin recognizes the following consonants.

- [b] and [p]--Franklin failed to realize the concept of voicing and voicelessness. Here p is described as the same as b, "but a thinner sound." Wise remarks (p. 115) that "Most of his mistakes of transcription are failures in sensitivity to these factors."
- [d] and [t]--here, again, the voiced stop is described as the same as [t] but "touching a little fuller."
- [g] and [k]--[k] is called "a little more acute."
- [v] and [f]--voiced quality is called "fuller and duller."
- [ð] and [θ]--the sounds of th to Franklin were postalveolar (line 20, Plate IV, p. 66). The voiced sound is "a little fuller."
- [z] and [s]--the description of [s] is intriguing: "This sound is formed by the breath passing between the moist end of the tongue and the upper teeth."
- [ʃ]--for this sound, Franklin says, there is "a new letter wanted in our language." The voiced analogue, [ʒ], as Wise remarks (p. 113), "must have eluded him completely, for he has no symbol for it . . ." However, Franklin was groping in that direction when he suggests (p. 299) the symbol here under discussion be used, preceded by z, for the initial sound in French jamais. He seems to have recognized the palatal quality of [ʒ] and the factor of voicing in combining thus his sym-

bols for [z] and [ʃ].

[dʒ] and [tʃ]--these are not separate symbols in Franklin's alphabet. He represents them inaccurately (p. 299) by d plus the symbol for [ʃ] for the affricate [dʒ] and t plus the same symbol for [tʃ]. His failure here is due again to his lack of concept of voiced-voicelessness.

[w]--this sound is represented by u, the same symbol used for [u]. He states (p. 298): "The vowel u, being sounded as oo, makes the w unnecessary." He may or may not have detected the glide quality of the consonant. The same symbol may have been used to limit the number of characters. The voiceless analogue, [ʍ], is not a character in Franklin's alphabet, but is rendered in transcription by hu, in such words as when, wheel, whether, etc., and also in whole, probably in error.

[h]--described as "A stronger or more forcible aspiration" than [ʌ].

[j]--this semivowel is represented by the symbol used for [i], leading to awkward transcription in such a word as yield, which Franklin would have had to write iild.

[m], [n], and [ŋ]--[n] is described as being made with "the tip of the tongue to the roof of the mouth." For [ŋ] a "new letter wanted . . ."

[l]--an alveolar consonant for Franklin (see line 17, Plate IV, p. 66). Wise notes (p. 119) that both Miss Stevenson and Franklin retain [l] in could, should, calm, and is of the opinion that l was pronounced in these and similar words. This is supported by research on 17th century New England pronunciation by Anders Orbeck, who suggests the possibility of sonant l in should and would.¹² Evidence of this also comes from a late 18th century glossary compiled by David Humphreys, in which he indicates cood, shood, and wood as New England dialect pronunciations of could, should,

¹²Anders Orbeck, Early New England Pronunciation, As Reflected in some Seventeenth Century Town Records of Eastern Massachusetts (Ann Arbor: George Wahr, 1927), pp. 46-47.

and would.¹³

[r]--this sound was undoubtedly a trilled r, as Franklin says of it, "the tip of the tongue a little loose or separate from the roof of the mouth, and vibrating." As Art is used as a keyword, even postvocalic r must have been so produced. Wise assumes (p. 118) "that his stressed and unstressed vowel r's, as in murmur, are also trilled."

Franklin: A Summary

In summary, it may be said that Franklin's "Reformed Alphabet" is an amazingly complete and accurate phonetic alphabet of the sounds of English of the late eighteenth century speech. Few sounds are unsymbolized. Descriptions are comparatively accurate, although incomplete. Factors such as degree of opening of the mouth, elevation of the tongue, lip-rounding, points of contact, and unstressing were recognized in greater or less degree. "One feels," Wise writes (p. 113), "that if he had continued to study the formation of speech sounds, he might have anticipated such men as Alexander Melville Bell and Ellis by nearly a century." Certainly his basic concepts were modern: for example, speaking of employing g for only one sound (that of [g]), he writes (p. 299):

Thus the g has no longer two different sounds, which occasioned confusion, but is, as every letter ought to be, confined to one. The same is to be observed in all the letters, vowels, and consonants, that wherever they are met with, or in whatever company, their sound is always the same. It is also

¹³David Humphreys, A Yankey in England (Connecticut, 1815), "Glossary," pp. 104, 108, 110.

intended, that there be no superfluous letters used in spelling; that is, no letter that is not sounded; and this alphabet, by six new letters, provides, that there be no distinct sounds in the language without letters to express them. . . .

It seems unfortunate that Franklin did not carry on his experimentation. His interest in reforming English spelling did not expire,¹⁴ but seemingly his phonetic alphabet was pushed aside and never carefully revised,

¹⁴Carl Van Doren, in The Letters of Benjamin Franklin & Jane Mecom (Princeton: Princeton University Press, 1950), p. 267, prints this letter, supposedly written in May or July, 1786:

DEAR BROTHER

I sincerely thank you for your valuable Present of the Books, which are the more so for having in it your Profile Done more to your Likeness than any I have heretofore seen. My Daughter & I sat down to Study the Alphabet Imagining we should soon Larn it so as to write you in that way, as the letters being formed in Italics I sopose you mean to have the writing and Printing as near alike as Possible and it must be a more Acute Pen than mine that can Imitate it, I however could Read it Perfectly, Pretty soon as I wrote it every word the third Day in my own way; but to Learn the Pronunceation it will be necessary to have a master to sett the Example. . . .

Sparks, in his Familiar Letters and Miscellaneous Papers of Benjamin Franklin (London: Jackson and Walford, 1833), pp. 209-210, prints this letter, called simply "To a Friend":

----You need not be concerned, in writing to me, about your bad spelling; for, in my opinion, as our alphabet now stands, the bad spelling, or what is called so, is generally the best, as conforming the sound of the letters and of the words. To give you an instance. A gentleman received a letter, in which were these words,--Not finding Brown at hom, I delivered your meseg to his yf. The gentleman finding it bad spelling, and therefore not very intelligible, called his lady to help him read it. Between them, they picked out the meaning of all but the yf, which they could not understand. The lady proposed calling her chambermaid, because Betty, says she, has the best knack at reading bad spelling of any one I know. Betty came, and was surprised that neither Sir nor Madam could tell what yf was. "Why," says

as it undoubtedly deserved to be. It remains as a manifestation of Franklin's many-sided genius. It was as unique as Franklin himself. Fifty years were to elapse before a similar project was attempted by an American, namely Peter Du Ponceau in his English Phonology, to be considered later in these pages.

Pickering and Du Ponceau

It would be virtually impossible to write a survey of the philological activities of either John Pickering or Peter Stephen Du Ponceau without frequent mention of not one but both. These two men, from the moment of their first exchange of letters, were inextricably bound together by ties of common interests and mutual admiration. Each of them profoundly influenced the other. If the debt is weighted in either direction, it must be said that the more facile mind of Du Ponceau turned Pickering's linguistic activity into channels that it might not have otherwise found. Pickering was a Salemite and a Bostonian, an American by birth and by ancestry. Du Ponceau was a Philadelphian, a Frenchman by birth and an American by choice, and, as are many converts, the more fervent for being so. The philological activities and interests of these two men had wide range. For purposes of this study, we shall make a somewhat

she, "y f spells wife, what else can it spell?"
 And, indeed, it is a much better, as well as
 shorter method of spelling wife, then Doubleyou,
i, ef, e, which in reality spells Doublevifey. . . .

arbitrary division: their writings concerning the North American Indian languages are considered in the third chapter, "The Rediscovery of Indian Languages," and all endeavors concerned with other languages, including English, in this chapter. In the succeeding pages, the linguistic activities of both men are taken into account in chronological order, as far as is practical. At times one of these two men will be the focus of attention. At times the interlocking activities of Pickering and Du Ponceau make it more practical to consider their joint activities or the activity of one as related to the other.

John Pickering

To say that the study of languages was a lifelong preoccupation of Pickering is hardly an overstatement. Actually, he seems to have begun the study of French at the age of six. According to one biographical sketch, which is fully substantiated by other writers, at the age of 29 he had attained such distinction in scholarship, "especially along philological lines, that he was offered the professorship of oriental languages at Harvard in 1806, and eight years later the professorship of Greek language and literature. He declined both these offers. He was a competent scholar in English, French, Latin, and had some acquaintance with Arabic, Turkish, Persian, Sanskrit, and Chinese. There was not anything connected with the study

of language that failed to arouse his interest. . . ."¹⁵

Charles Sumner, in a commemorative address, extends the list of Pickering's linguistic accomplishments even further:

. . . It was certain that he was familiar with at least nine [languages],--the English, French, Portuguese, Italian, Spanish, German, Romaic, Greek, and Latin; of these he spoke the first five. He was less familiar though well acquainted, with the Dutch, Swedish, Danish, and Hebrew; and had explored, with various degrees of care, the Arabic, Turkish, Syriac, Persian, Coptic, Sanscrit, Chinese, Cochinchinese, Russian, Egyptian hieroglyphics, the Malay in several dialects, and particularly the Indian languages of America and of the Polynesian islands. . . ."¹⁶

Pickering was not, it should be emphasized, a kind of polylingual superparrot, but a scholar with an inquiring mind--one of the first American comparative linguists. Pilling gives the following opinion: "Mr. Pickering became celebrated by his philological studies, which gained for him the reputation of being the chief founder of American comparative philology."¹⁷

That Pickering was keenly aware of the emergence of comparative linguistics is revealed frequently in his

¹⁵M. M. Mathews, The Beginnings of American English (Chicago: The University of Chicago Press, 1931), p. 65.

¹⁶Charles Sumner, The Scholar, The Jurist, The Artist, The Philanthropist. An Address before the Phi Beta Kappa Society of Harvard University, at their anniversary, August 27, 1846 (Boston: William D. Ticknor and Company, 1846), 2nd edition, p. 16.

¹⁷James Constantine Pilling, Bibliography of the Algonquian Language (Washington: Government Printing Office, 1891), p. 345.

PLATE V



John Pickering

writings. For example, in discussing the value of the study of Indian languages, he cites the advances in the field of science and the consequent compulsion to re-examine old theories and propose new ones and draws the analogy that "from the great advances made in Comparative Philology in the present age, particularly by means of an extensive acquaintance with the unwritten dialects of barbarous nations, there is reason to believe that some important modifications are yet to be made in our theories."¹⁸ (The italics are Pickering's; he shared with many other writers of his day an addiction to their use.)

John Pickering, a son of a famous father, Colonel Timothy Pickering, a revolutionary war figure and Secretary of State from 1795 to 1800, was born February 7, 1777, in Salem, Massachusetts. He was the eldest of ten children, but survived most of his brothers and sisters. As a young man he accompanied his father on visits to the Six Nations in central New York and acquired an interest in Indian languages.¹⁹ This interest, however, remained comparatively dormant until the beginning of his friendship with Du Ponceau. According to Mathews (p. 64), "His opportunities for

¹⁸ John Eliot, A Grammar of the Massachusetts Indian Language. A New Edition with Notes and Observations by Peter S. Du Ponceau, LL. D. and An Introduction and Supplementary Observations, by John Pickering (Boston: Phelps and Farnham for the Massachusetts Historical Collections, 1822), Pickering's "Introduction," p. 3.

¹⁹ Pilling, op. cit., p. 395.

scholastic attainments were unusual, and he possessed natural endowments that enabled him to make full use of them." Learning was highly esteemed in the Pickering household and Col. Pickering remained, throughout his long life, fully sympathetic with his eldest son's endeavors. In late October, 1783, Col. Pickering wrote to his wife, in part, as follows: "Tell John that I have sent to Hartford for a new spelling-book for him; if it answers the description, it will be just what I have long wanted." Later, according to John Pickering's daughter, Col. Pickering received the new spelling-book and wrote of it to his wife:

It is the very thing I have long wished for, being much dissatisfied with any spelling-book I had seen before. I now send the book, and request you to let John take it to his master, with the enclosed letter; for I am determined to have him instructed upon this new, ingenious, and at the same time easy plan. All men are pleased with an elegant pronunciation; and this new spelling-book shows children how to acquire it with ease and certainty. . . .

This, according to Miss Pickering, was Noah Webster's new spelling-book.²⁰

Pickering was graduated from Harvard in 1796 and then studied law. Soon, however, he became secretary to William Smith, of South Carolina, United States minister to Portugal.²¹ In Lisbon, he began an intensive study of languages. In a letter to his father from Lisbon, he writes: "Nothing is

²⁰Mary Orne Pickering, Life of John Pickering (Boston: University Press, 1887), p. 18.

²¹Mathews, p. 64

more pleasing to me than the study of languages. . . ."22

His knowledge of languages was already extensive, but he was determined to increase it. He writes to a friend:

. . . In the expectation of accompanying Mr. Smith to Constantinople, I have already begun to study Arabic, which is useful as a foundation for my Turkish. This engages my attention very strongly, being a language so different in its genius, or idiom, from any of the languages of Europe. I find it difficult, on the whole; but I am far from despairing of overcoming all the difficulties. I have a master who is a native of Damascus, where the purest Arabic is spoken, and who is a learned man. I have a double embarrassment in my undertaking, for I am obliged to translate into Portuguese or Latin, both of which are foreign languages to me. . . .²³

Pickering spent two years in Lisbon and then was transferred to London as secretary to Rufus King, United States minister at the Court of St. James. After two years in this post, Pickering returned to Salem and, after being admitted to the bar, took up the profession of law. He practiced in Salem until 1827 and then moved to Boston. Pickering was a successful and busy lawyer. Often his avocation of philology was necessarily pushed aside. Nevertheless, he wrote much that was well-received and is worthy of preservation. Sumner, in his eulogy, says (p. 11): ". . . By marvellous assiduity, he was able to lead two lives, one producing the fruits of earth, the other those of immortality. In him was the union, rare as it is grateful, of the lawyer

²²Mary Orne Pickering, p. 142.

²³Ibid., p. 140.

and the scholar."

The year 1816 saw the publication of Pickering's first linguistic enterprise of any note. This was the Vocabulary, or Collection of Words and Phrases which have been supposed to be peculiar to the United States of America. This essay had been read in 1814 to the American Academy of Arts and Science, of which Pickering was a member. Pickering's attention, his daughter writes (pp. 250-251),

. . . had been first given to this subject during his residence in England, where he had watched the language used by the best authorities in public and in private; and he had there begun the practice of noting Americanisms and expressions of doubtful authority. This practice was afterwards continued, until it assumed such proportions and importance that he was induced to offer the results to the consideration of the American Academy; and his Memoir was published in the Collections of the American Academy for 1815.

Miss Pickering continues (pp. 256-257):

In the summer and autumn of 1815 my father was occupied in preparing for the press the Vocabulary and Introductory Essay originally communicated to the American Academy. As the first attempt to ascertain the comparative state of the language used here and in the mother-country, the subject had attracted much interest; and there was a call for the publication of the Memoir in an independent form for general use. His friends who had been travelling in the Southern and Western States, as well as others engaged in literary pursuits at home, had turned their attention to collecting peculiarities of language coming under their own notice, and suggesting them to him for consideration; and while revising the whole subject carefully himself, he had the benefit of the judicious criticisms of two English friends thoroughly educated in England, but who had now for many years made their home in this country.

These two friends were Benjamin Vaughan, of Hallowell, Maine, and Thomas Langdon Elwyn, of Portsmouth, New Hampshire. This work, primarily of lexical import, was

thoroughly conservative and touched off a controversy with the leading radical in American philological circles, Noah Webster. In this study, Pickering's Vocabulary will be discussed at greater length in a more appropriate chapter, "The Lexicographers."

Pickering's Writings on Greek

The book that many acclaimed as Pickering's chief work was also begun in 1814. This was the Greek and English Lexicon, to which Miss Pickering refers (pp. 250-251) as "my father's work of greatest labor in the department of classical learning. . . ." Mathews, more than a hundred years after the appearance of this book, writes (p. 65): "Possibly his major contribution to scholarship was his Greek-English lexicon. . . ." This work, begun in 1814, did not come off the press until 1826. By this time, Pickering had established an enviable reputation in philological circles, both in the United States and abroad. As early as 1820, he was carrying on an extensive correspondence with European scholars. With respect to Greek pronunciation, he had been in communication with Vater of Germany,²⁴ Reuvens²⁵ and

²⁴Johann Severin Vater (1771-1826) was professor of theology and Oriental languages at Halle and then at Jena. His major contribution to linguistics was the completion of J. C. Adelung's Mithridates. The last three of the four volumes were by Vater.

²⁵Casper Jacob Christiaan Reuvens (b. 1793) was a noted Greek and Latin scholar of this era.

Van Lennep²⁶ of Holland, and Richard Payne Knight of London.²⁷

A Comprehensive Lexicon of the Greek Language went into three editions, which denotes some degree of popularity. However, as is so often the case with outstanding works of other days, Pickering's is now relegated to the dustier shelves of the libraries and is scarcely known to students and teachers of today. The book, subtitled "Adapted to the Use of Colleges and Schools in the United States," is, according to the "Preface," written by Pickering and dated August 30, 1826, one of the first of such lexicons.²⁸ Most of the previous ones were written in Latin.

Long before the completion and publication of the Greek Lexicon, Pickering communicated to the Academy of Arts and Sciences one of his most noted works, the Memoir on the Pronunciation of the Greek Language. This was given to the Academy in 1818 and was published three years later. It was written upon the opportunity that Pickering had to make

²⁶This may have been Gerrit van Lennep (b. 1774), a lawyer and philologist and the author of a Grammaire Hollandaise, 1818.

²⁷Richard Payne Knight (1750-1824) was a wealthy English collector of bronzes and other objects d'art. He wrote An Analytical Essay on the Greek Alphabet (London: 1791) and An Inquiry into the Symbolic Language of Ancient Art and Mythology (privately printed, 1800). He was a connoisseur of ancient art, and, as such, was highly considered.

²⁸Pickering, A Comprehensive Lexicon of the Greek Language, 3rd edition (Boston: Wilkins, Carter, and Company, 1846), p. iii.

inquiries concerning modern Greek from two native speakers of that language from a Greek ship arriving at Boston in 1814. In the light of his previous and continuing study of classical Greek and his conversations with these speakers of modern Greek, he had gradually changed his opinions regarding the pronunciation of classical Greek. He writes: "It now appears to me highly probable, nay almost certain, that the Greeks of the present day pronounce very nearly as their ancestors did, as early as the commencement of the Christian era, or at least just after that period . . ." ²⁹ This thesis is supported in the remainder of the essay in two ways: (1) by a historical account of the pronunciation of Greek during the time of Erasmus, just before that scholar, and since, on up to Pickering's day; and (2) by an examination of modern Greek pronunciation and a comparison with what is known or conjectured of ancient Greek pronunciation.

The Beginning of a Friendship

Col. Timothy Pickering, John Pickering's father, had long been acquainted with Peter Du Ponceau of Philadelphia. Through Col. Pickering began the life-long friendship of John Pickering and Du Ponceau, in the spring of 1818. The first of many letters was written on April 18, by Pickering.

Sir,--I received some time ago the copy of your

²⁹Pickering, "On the Pronunciation of the Greek Language," Memoirs of the American Academy of Arts and Sciences, Vol. IV (Cambridge: Hilliard and Metcalf, 1821), pp. 227-228.

interesting Memoir on English Phonology which you were so obliging as to send to my father for me; but immediately after reading it I lent it, and have not been able till now to read it a second time, during which I have been more than ever surprised at your intimate acquaintance with our language. You were so polite as to request my criticisms on the work; and if I were sensible that I could make any which would be worthy of your attention, I would cheerfully comply with the request. But my acquaintance with the principles of language is not such as to enable me to make any remarks which would be of use to you. I shall, however, not content myself with the two perusals I have already given to the work, but I shall continue to read it; and if any reflections should occur which appear to me to be of the least importance, I will with all the frankness which your kindness authorizes on my part, communicate them to you. Allow me, sir, to take this opportunity of mentioning that I have reserved for you a copy of the publication of mine to which you allude, and have requested a bookseller in Boston to forward it to you. I beg your acceptance of it as a small testimonial of the high respect which I entertain for you personally, and of the obligations which all Americans ought to feel for the benefits we are deriving from learned foreigners who bring their intellectual treasures to our shores. I am, etc. . . .³⁰

Du Ponceau's reply, dated June 6, was written with the modesty and admiration which characterizes his correspondence with Pickering, even after the day of his death, some twenty-five years later.

Sir,--I beg your pardon for not having sooner answered the letter you have done me the honor to write to me. At the same time I have to thank you for the copy of your Vocabulary, which I have lately received from your printer. I have read it again with great pleasure. It affords an additional proof of the valuable exertions of the State of Massachusetts in the cause of American literature. It is a race open to all, and your State has peculiarly distinguished itself in it. To ours it is a cause of emulation, unmixed with jealousy. You have done well, we must try to do better; and whoever succeeds

³⁰Mary Orne Pickering, pp. 266-267.

at last, the nation at large will be the gainer. I am happy to find that my little Essay has met with your approbation. The very high compliments which you have the goodness to pay me at the close of your letter are in every point of view undeserved. The knowledge that I possess is very little; but whatever it is, it was acquired in this country, to which I brought nothing but the elements of a common classical education. The rest is owing to American instruction and American example. The English language, however, I learned in my infancy, which made me feel myself at home in this country from the first moment I arrived, upwards of forty years since; and the delicate kindness of my fellow-citizens of Pennsylvania has kept up to this day the pleasing illusion, if it is one. After tasting so long the honor and the pleasure of being in every respect considered as a member of the family, I assure you, sir, that I am not ambitious to receive the honors due to strangers. I have the honor to be, with great respect and esteem, sir, your most obedient, humble servant, . . .³¹

Peter Stephen Du Ponceau

Peter Stephen Du Ponceau was 17 years Pickering's senior but possessed both an ageless humor and intellectual curiosity which illuminated his correspondence and scholarly writing throughout his long life. He was born Pierre Etienne Du Ponceau on June 3, 1760, on the Isle of Rhé, a few miles off the coast of La Vendée, France. He came from a moderately distinguished family. His father was an officer in the French army who reluctantly gave up the idea of Peter following in his military footsteps, as his son's scholarly attainments and proclivities became unmistakably apparent. He was early educated for a career in the Catholic Church. However, an incurable independence of

³¹Ibid., pp. 267-268.

mind and a stubborn tendency to correct certain ill-informed teachers caused him to relinquish theological studies. Moreover, the Isle of Rhé was a Huguenot stronghold and Du Ponceau was never greatly inclined toward Catholicism. In later life, in Philadelphia, he attended Presbyterian churches. After quitting his theological studies, he went to Paris, where he secured a position as secretar to Count de G  belin, author of Le Monde Primitif.³² Later, he was aid-de-camp to the Baron von Steuben. The latter was on his way to America and was looking for a secretary who could speak English. Du Ponceau had spoken English since childhood. Thus, he came to America with von Steuben, landing at Portsmouth, New Hampshire, in December, 1777. During the Revolutionary War, he was attached to the Baron's staff, receiving the brevet rank of captain in the Continental Army after two years' service. A year later, he resigned because of ill health. In the same year he became a citizen of the United States. Later, he became an under-secretary to Robert R. Livingston in the War Department. It was probably at this time that he met Col. Timothy Pickering. At the close of the war, he embarked upon legal study and was admitted to the bar in 1785. He became a life-long resident of Philadelphia and was one of the founders of the Law Academy in that city. He was notably active in his profession and

³²Court de G  belin (Antoine) (b. 1725), Le monde primitif analys   et compar   avec le monde moderne, in nine volumes (Paris: 1773-1784).

gained much honor in it, both through his activities and through his writings in the legal field. For several years he was president of the Philadelphia Law Academy. After acquiring some little wealth in his profession, he devoted most of his time to philology.

This is the bare outline of the life of one of the most undeservedly neglected figures in early American history. Du Ponceau was one of the most determinedly American of early Americans, and yet he remained incorrigibly French. A certain lightness and wit and a conciseness of expression relieve even the most scholarly of his works. Some light is shed on his early life by a series of letters recently published.³³ These are actually a series of autobiographical letters which Du Ponceau wrote at the urging, first, of Robert Walsh, Philadelphia journalist and litterateur, and, later, of Du Ponceau's granddaughter, Anne L. Garesché. The letters were written over a period of several years. The first is dated May 12, 1836, when Du Ponceau was almost 76 years old. The last is dated January 31, 1844. James L. Whitehead, of the University of Pennsylvania, has done a distinct service in collecting and editing these letters. In them, the distinguished philologist and jurist comes to life as a precocious boy, a talented and witty young man, and as an old man able to look back on a long and happy life

³³James L. Whitehead, editor, "The Autobiography of Peter S. Du Ponceau," The Pennsylvania Magazine of History and Biography, April 1939, pp. 189-227; July 1939, pp. 311-343; October 1939, pp. 432-461; January 1940, pp. 97-120.

with a charming sense of humor, utterly devoid of pomposity. These letters provide a background that aids appreciation of his place in American letters. As Whitehead comments (p. 189, April 1939):

. . . it is well to take particular notice of the fact that he was born of a rather distinguished French family and had the opportunities of a competent education in French and classical culture, as well as his much-loved English literature. His real place in American life cannot be adequately determined without this background in mind. Although in many ways more American than the Americans, he could not leave behind him his French antecedents and training. He was undoubtedly one of the most effective agents for the diffusion both of French culture in the United States and of American culture in France.

As with Pickering, for Du Ponceau the age of six appears to have been a starting point in his linguistic endeavors. He writes (Whitehead, pp. 195-196), in a letter dated May 12, 1836:

At six years my fondness for languages began to develop itself. I studied the Latin with great diligence. One day, I met accidentally an English Grammar at a neighbour's house. Child-like, I was delighted with the letters K and W, which my my [sic] eyes had not been accustomed to see. I took the book home and began to study the English language. My progress was rapid. There were English and Irish families in the town, and the Irish regiment of Clare and afterwards that of Walsh were quartered there. I had a good ear and flexible organs. I soon spoke good English, and became a perfect Anglomane. I devoured Milton, Thomson, Young, Pope, Shakspeare [sic], and so neglected the French poets that I must acknowledge that to this day, I have read but few of the Tragedies of Corneille, Racine, and Voltaire. . . .

His first "book" was produced during his stay in Paris, where he was serving as secretary to the Count G  belin. In a letter dated May 13, 1836, Du Ponceau writes (White-

head, p. 198) of returning to Paris from Versailles:

. . . Among other persons to whom I was introduced was the Count de Genlis, the husband of the celebrated writer. He had been at the Isle of Rhé and knew my family. He received me like a true Courtier. He was the intimate friend of the Duke of Orleans and lodged in his palace. One day he told me that the prince wished to have an English and French vocabulary of the words and phrases of the Chace [sic], with dialogues, &c. The subject was new to me, but what will not necessity and industry do? I undertook, and with great labour produced, the work which the prince was so much pleased with, that I had the pleasure to see my manuscript in his library, elegantly [sic] bound in red Morocco, with gilt edges. I had been promised a handsome reward; but when afterwards I modestly hinted to Mons Genlis something about a compensation, his answer was: Les princes ne donnent rien. Had I been asking for an alms I could not have been answered otherwise. He was guillotined in 1793 with Brissot and others of his colleagues. I did not wish him so severe a punishment.

Du Ponceau's English Phonology

Before the beginning of the friendship of Pickering and Du Ponceau, Du Ponceau was already a distinguished jurist, an accomplished philologist and linguist, and a solid citizen of Philadelphia. The first work of his that Pickering seems to have read was the essay on English Phonology. This work, published in 1817, and the enthusiastic interest of Du Ponceau in the languages of the North American Indians were to have a profound effect on Pickering and, eventually, to bring forth the latter's most enduring philological endeavor. This phase of Pickering's and Du Ponceau's careers is dealt with, however, in Chapter III.

The work of Du Ponceau which Col. Pickering transmitted to his son, John Pickering, and which began the long

friendship of the two philologists, was Du Ponceau's English Phonology; or, An Essay Towards an Analysis and Description of the Component Sounds of the English Language. This had been read as a memoir before the American Philosophical Society on May 24, 1817; it appeared in book form in the same year and was published the following year in Volume I, new series, of the Transactions of the Society.³⁴ The copy of the book to which the present writer had access carries the following legend in Du Ponceau's handwriting: "Presented to Timothy Pickering, Esq. as a mark of high respect by The Author." The flyleaf carries the notation: "J. Pickering's M. Duponceau on English Phonology 1817."

Eventually, English Phonology was to prove the most enduring of Du Ponceau's many writings on language, as is seen when considering Du Ponceau's influence on Pickering's Essay on a Uniform Orthography (see Chapter III). In itself, the work is unique and noteworthy. It is the first attempt, after Franklin, by an American writer to analyse systematically the sounds of American English. Its merit is uneven, although it is thorough, well-arranged, and reasonably lucid. It is ingenious and frequently shrewdly observant. In view-

³⁴Peter S. Du Ponceau, English Phonology; or, An Essay Towards an Analysis and Description of the Component Sounds of the English Language (Philadelphia: printed for the author by Abraham Small, 1817); also, Transactions of the American Philosophical Society, Vol. I.--New Series (Philadelphia: A. Small, 1818), pp. 228-264. In the following pages, reference will be made to the last named publication, unless otherwise noted.

point, Du Ponceau was in advance of his time. In practical observation, he was frequently incorrect and sometimes misled either by preconceived concepts or by a prescriptive approach or by both. His descriptions are sometimes confused. Withal, it is an ambitious attempt and, considered in its historical environment, well-conceived and well-executed.

In this work, the author defines "phonology" as "the knowledge of the sounds produced by the human voice."³⁵ He comments on the complexity and abundance of such sounds and on the difficulty of learning a foreign language. He ascribes this difficulty to the differences in sounds, especially of apparently similar sounds, "which, however, are not so, being produced by a different juxta-position of the organs of speech." In the same section (pp. 228-229), he points out the confusion resulting from the same letters or combinations of letters representing different sounds in different languages. He gives the examples of a in car, par, which appear the same in both French and English, but which actually have different sounds. He writes (p. 229):

. . . The English alphabet has no powers to express the French sound of the vowel a in those two words, nor can the French alphabet represent the short sound of the English a in hat, fat, a sound which, however to us it may appear simple, a Frenchman cannot utter without difficulty.

In a footnote he adds:

. . . The true French sound of the vowel a does not exist singly in the English language; it enters, how-

³⁵Ibid., p. 228.

ever, into the composition of some diphthongs . . .

This sound [a in hat] in French is always long, and is represented by e, as in terre, mer, fer, by è, as in père, près, or by ê, as in bête, tête, Evêque. The short sound does not exist in the language, and therefore cannot be described to a Frenchman by mere alphabetical signs--é, or ë, for instance, would not represent this sound, but that of our short e in wet, bet.

His observation that the a of French is found in some English diphthongs is in agreement with the usual IPA transcription of English [aɪ] and [aʊ]. He goes on to illustrate "such nice yet real differences in the articulations of the human voice" with examples from several languages: "Low Dutch," German, Polish, Greek, Chinese, Spanish, and Indian and African languages. In commenting on the "whistled w" of the Delaware language, he says (p. 230), "however barbarous this sound may appear to one who has never heard it, when pronounced, or rather whistled by a person to whom habit has given a facility of utterance, it has a pleasing and delicate effect on the ear . . . The epithet barbarous is much too soon and too easily applied, when we speak of sounds and of languages that we do not know."

In considering this great variety of speech sounds, he emphasizes (p. 230) "the great difficulty, if not impossibility, or representing in an universal alphabet, all the sounds and shades of sounds actually existing in human language" by letters of the alphabet or by diacritical markings. He points out (p. 231) the vastness of any undertaking to devise a "general . . . alphabet of sounds" which could be used to represent all speech sounds, and calls the science

which might result from such an undertaking "the Phonology of Language." He then writes:

I do not possess the requisite talents to venture upon so vast an undertaking. I leave it to those who are not aware of its difficulties, or who feel conscious of sufficient powers to overcome them. I will, however, make an attempt to apply my principles to the English language, although I am far from considering this an easy task. But it will be recollected that I present only a rude outline, indulging in the hope of seeing it filled up by an abler head and a more skilful hand than mine.

He then speaks of the various attempts "to ascertain and fix the pronunciation of the English language; none of which has yet completely succeeded." He gives the reason for this failure:

. . . Instead of applying the process of analysis to the sounds themselves, independent of, and abstracted from, the signs which represent them, grammarians have looked to the signs in the first instance, and proceeded from them to the sounds which they are supposed to represent. Hence we are told of the sound a, the sound e, the sound o, when in fact there are no such sounds in nature, a, e, and o, being arbitrary signs, which may represent one sound as well as another, and are not always pronounced in the same manner. . . .

He then mentions Sheridan's and Walker's attempts to discriminate the different sounds of various letters "by means of numerical signs superadded to each character . . ."

This, he says, has produced only greater confusion, since different letters, represent the same sound. These different letters are modified and thus more than one symbol stands for the same sound. Such confusion, he writes (p. 232), "will always be so when the alphabet of any language is taken as the basis of a system of its sounds . . ."

He deprecates, too, the system similar to musical notation, claiming (p. 233) that there is no "fixed and never varying analogy" between speech sounds. He comments that all European languages have deviated from the original intent of the alphabet and that "there is none which can boast of a correct orthography on the true alphabetical principle. . . . Nor," he says, "is this difficult to be accounted for. Oral language is subject to change, and the pronunciation of words does not constantly remain the same. . . ." He adds that, although "alphabets may have been originally intended to represent mere sound, the various combinations of their characters form at last in fact a written language, which like that of the Chinese, conveys ideas directly to the mind, without passing through the mental ear, any more than words spoken pass through the mental eye." He concludes (pp. 236-237) that:

. . . it is of very little consequence whether the words spoken are or are not accurately represented as to sound, by the characters of the graphic language, the combinations of which, however incongruous or discrepant from their original application, never fail to impress on the mind the ideas which habit has associated them.

I am not, therefore, one of those who wish to see any innovation introduced into the alphabet or orthography of the English language. In its present state, it is adequate to every practical object, and we do not find that children learn with more difficulty to read the French and English languages, the orthography of which is the most anomalous of any that we know, than the Spanish, Italian or German, in which the alphabetical signs in their combinations into words, preserve in a greater degree their original sounds. Nor can I perceive any good effect that would result from a similar innovation, (independent of the difficulty, not to say the impossibility, of introducing it into use) for as the pronunciation of the spoken language has changed, and

will still change, as years continue to roll, it would be impossible to make the changes in the orthography keep pace with those of the oral idiom, which for a long time, as I have observed, are partial and uncertain, and not seldom are rejected after having been tried for a while; so that in the course of one hundred years, perhaps, another alphabet or another mode of spelling would be required to restore the lost analogy between the written and the spoken language.

Du Ponceau desires, rather, to obtain "as perfect and accurate a knowledge as possible, of the elementary sounds of which our spoken language is composed." He considers it a mistake to attempt this through the medium of alphabetical signs. He states that there is "no precise idea of sound" attached to any of the alphabetical signs. Thus, he notes (pp. 238-239), ". . . the futility of the attempt that has been made by some French, and I believe, by some English grammarians, to change the names of the alphabetical signs, so as to make them more simple, and concordant with the sounds which they are supposed to represent. . . . Let the names of things remain as they are, and let rather our studies be applied to the things themselves."

It can be seen from the foregoing that Du Ponceau (1) has a well-defined concept both of phonology and of the extent and variety of speech sounds, (2) realizes the inadequacy of orthographic indication of speech sounds, (3) realizes the independent change of oral language, and (4) seems to have a phonetic approach to the representation of sound, as implied by his ascribing confusion to the use of different letters to represent the same sound. However, it must be noted, that his analysis of the sounds of English is,

as will be seen, more phonemic than phonetic.

Du Ponceau establishes the subject matter of this essay as (p. 239): "The component sounds of the English oral language, considered in the abstract, and independent of the signs which are used to represent them . . ." He states that he has attempted to subject the sounds to a severe analysis, using the ear only as a guide. He admits the difficulty in this and states that the association between written and spoken language has interfered. "When we have been accustomed to see the same sound represented by different characters, our ear involuntarily follows the eye, and perceives differences which do not exist in nature. Hence, all the English grammarians that I am acquainted with, except Mr. Mitford, in his very interesting treatise on the harmony of language,³⁶ have considered the sound of a, in all, and that of o, in cottage, as differing from each other, whereas it is evident, if the ear only is attended to, that they differ in nothing but quantity, the former being pronounced long and the other short." Du Ponceau makes the statement that the vowels in robe and but are different only in quantity. With respect to this statement, there is a handwritten footnote, presumably by John Pickering, in the book edition of English Phonology to which the present writer had access. Pickering strongly questions Du Ponceau's observation. Du Ponceau writes (pp. 240-241):

³⁶William Mitford (1744-1827), noted as a historian, wrote An Essay on the Harmony of Languages (London: 1774; 2nd edition, 1804).

There are few persons who will be disposed to deny that the vowel sound in the word son is that of the short o, the same which is pronounced long in the word robe; but change the orthography of this word and write it sun, and men will no longer feel the same impression of sound, because it is not an o which they have before their eyes. I have met with similar delusions at every step of this investigation, and am not certain that I have conquered them all.

With respect to the sentence beginning "There are few persons who will be disposed to deny . . ." Pickering comments:

"Many will: for though got and sought have the same vowel sound, only differing in quantity; yet o in son (like u in the syllable sut) is palpably distinct from o in robe." In preceding lines, Du Ponceau had commented that Mitford "distinguishes between the sound of o in robe, and that of y, in but, which he classes as different vowel sounds without considering that . . . the difference consists only in duration." Pickering comments here: "Would Mr. Duponceau's [sic] ear not perceive that u in rut, and o in rote have sounds very palpably different? and are not the same letters in but & robe alike differently sounded?"³⁷ In this, and other similar instances, it seems that Du Ponceau's own eyes mislead his ears.

In the same vein, Du Ponceau believes (p. 241) that the most difficult sounds to distinguish are "the short sounds of the English unaccented vowels." He evidently believes that there is a difference in the final vowel sounds of altar,

³⁷English Phonology, 1817 book edition, p. 28 (see Plate VI, p. 101).

are few persons who will be disposed to deny that the vowel sound in the word *son* is that of the short *o*, the same which is pronounced long in the word *robe*; but change the orthography of this word and write it *sun*, and men will no longer feel the same impression of sound, because it is not an *o* which they have before their eyes. I have met with similar delusions at every step of this investigation,

* 6 Edinburgh Rev. 360.

Would Mr. Dugmore not perceive that it is not *o* in *son* but *o* in *robe* have some very different sounds in *son* and *robe* in *son* but *o* in *robe* is different to *son*.

cancer, honour, and martyr. He says that "when their pronunciation is to be explained, [they] will be spelled, for demonstration's sake, altur, cansur, honur, martur, as if the vowel sound of the last syllable in all of them were the same."

But this similarity is nothing in my opinion, but a deception produced on the ear by the rapidity of the voice passing over the unaccented vowel. If the powers of the auditory sense could be increased by some acoustic instrument, as those of the organs of vision are by a microscope, I have no doubt that the sounds of the vowels thus obscurely but correctly pronounced, would be distinctly heard . . .

In connection with the foregoing, he comments (pp. 242-243) on some (to him) incorrectness of speech and condemns "the fault which modern grammarians have committed."

They have laboured, it would seem, to vulgarize our language. They have mistaken the indistinct pronunciation of unaccented vowels in colloquial speech, for their true and genuine sound. Nor are they vowels alone that have given rise to a similar error. The sound of the letter t when followed by the vowel u and rapidly uttered, appears to the sense like that of ch. Thus the words nature, fortune, by the operation of that delusion which I have already noticed, seem to sound like natchure, fortchune, and this has been taken for the true and genuine pronunciation of these and other similar words. But this supposed sound is mere deception, in the same manner as when we pronounce the words don't you? can't you? we are heard to say don't chew, can't chew. And surely it cannot be said that such is the true pronunciation of the English language, and that the sound of the letter t when followed by u is always changed into that of ch. It will be contended, perhaps, that there is a difference between consecutive words and consecutive syllables, a longer pause being presumed between the former than between the latter. But I assert that in point of fact there is none, that don't you and can't you in common familiar language are pronounced with as much rapidity as nature and fortune, and that the deception on the ear, of ch instead of t takes place when two words as well as two syllables follow each other. . . . In speaking very rapidly, it is difficult to avoid this confusion of sounds, even

when the vowel is accented; but I must repeat that the true pronunciation of a language is never to be sought for in the careless habits of rapid discourse.

Considering Pickering's views on correct English, as reflected in his Vocabulary, it is easy to see why he should have received Du Ponceau's Essay so enthusiastically. The following could have been said equally well by either of these men, although the statement is by Du Ponceau, in giving the raison d'être of his Essay (pp. 243-244):

. . . The standard [of correct speech] exists only in the language of solemn recitation, in which every sound is distinctly uttered, and no licenses are permitted. It is by adhering to this standard alone, that the purity of a language can be maintained, and that it can be saved from corruption and barbarism. . . .

The correct pronunciation of a language cannot be preserved, unless it is precisely fixed and ascertained, and that cannot be done unless all its component sounds are accurately known and clearly distinguished from each other. . . .

He proceeds, then, not to analyze rapid speech or colloquial speech, but slow and distinct formal discourse, and not always, one must assume, as he hears it, but as he thinks it should be pronounced.

As to his system of representation of sounds, he does not wish to use the alphabet, for obvious reasons, and so, instead, he gives proper names to each sound--"each of which [referring to the proper names] contains the particular sound which it is intended to designate." (P. 245.)

It has been previously said that his analysis proceeds more along phonemic rather than phonetic lines. He states (p. 245): " . . . I distinguish between the different modes of expressing vocal sounds, according to their

quantity, shewing the various characters by which they are represented to the eye, when long and when short." That is, [i] and [ɪ] are considered under the same heading, as varieties of the same sound. This is generally true of his consideration of the other vowels, with more or less accuracy. However, this phonemic approach is not maintained with complete consistency. Nevertheless, as stated in a recent article on the Hawaiian orthography, "Duponceau was groping toward the idea of one sound (that is, one phoneme) for each symbol and one symbol for each sound. Without having a name for it, he had an embryonic concept of the phoneme."³⁸

Du Ponceau lists (p. 246 ff.) twenty-nine "pure elementary sounds" in the English language, "of which seven are vocal, twenty-one organic or consonant, and two are aspirations or spirits." This adds up to thirty; the discrepancy is explained (p. 248) perhaps by his general remarks on the "aspirations."

In addition to the proper vocal and organic sounds, the English language has two modifications of sound, which I call aspirations or spirits. The one is soft, and in our common alphabet is represented by the letter h. The other is harsh and guttural, and is only found in some Scotch and Irish proper names, such as Lough, Drogheda, &c. It may be said, perhaps, that this last does not properly belong to the English language, but it is so common in almost every other European idiom (the French and Italian, I believe, are the only exceptions,) that it would be very useful, if added to the auxiliary table of signs which I propose. . . .

³⁸C. M. Wise and Wesley Hervey, "The Evolution of Hawaiian Orthography," The Quarterly Journal of Speech, Vol. XXXVIII, No. 3, October 1952, pp. 311-325, see p. 314.

"Vocal sounds" are, of course, vowel sounds. In Du Ponceau's thinking, they are all variously modified, by length or by nasality. He would use, in a phonological alphabet, the usual signs of quantity and would mark nasal quality with a cedilla under the letter. He says (p. 246) that "diphthongal sounds composed of two vocals rapidly pronounced in succession, so as to make but one syllable . . . might with propriety be represented by simple characters . . . but they cannot be classed among pure elementary sounds."

His "organic sounds" are consonants. He writes (pp. 246-247): "I call them organic because their utterance requires the motion and various positions of the organs of speech, whereas in the pronunciation of vocals those organs are perfectly at rest. It follows from this description that there are vocal sounds which by a particular position become organic. Such are those which in our language are represented by the letters y and w." He notes the ambiguity arising from the use of these letters both as vowels and as consonants. "Owing to this ambiguity," he writes (loc. cit.) "the French grammarians are yet in doubt whether they should pronounce fi-ole or fi-ole; hier or hi-er. A well composed alphabet should leave no reason for such doubts." This weakness, it will be remembered, was one of the outstanding faults of Franklin's alphabet.

Affricates are described in the following words:

There are organic sounds which combine so easily with each other, that when placed in a certain juxta-

position, and pronounced rapidly together, they are so blended that they appear as forming but one sound. Such are the sounds of t and d, with sh and zh, as in charm, joke, &c. These blended sounds might well be represented by single letters in a phonological alphabet of the English language, and have separate appropriate names.

He remarks that the combinations such as [ks], [gz], [ps], [ts], etc., do not stand in such need of one-character representation, but that such would add to the utility of a general phonetic alphabet. He suggests (pp. 248-249), for that matter, the addition to a phonetic alphabet of the English language, "by way of appendix, a few of the best known and most familiar sounds of foreign languages, such as the French u and eu, the Spanish ll, the Italian gn, and a few others, so as to make a tolerably complete alphabet, for the use of the learned, to be applied merely to the comparison and description of foreign as well as domestic sounds, and above all to the fixing of the pronunciation of our own language." He warns, however, that "the number of characters should not be too much increased, so as to make it a difficult study to acquire it [the alphabet]."

Before such an alphabet can be composed, he believes, "it is necessary well to ascertain what are the pure, simple, elementary sounds that are contained in our own language" In his following description of the sounds of English, he uses the terms "vocal" and "organic" in relation to sounds, and "vowel" and "consonant" with respect to letters.

Du Ponceau was preoccupied with the aspect of quantity. Much of the inaccuracy of his descriptions of the sounds

of English may be laid to this preoccupation. He writes (pp. 249-250):

I have also thought proper to distinguish the quantity, and to separate the long pronunciation of each sound from the short one. In doing this I have found great difficulty, because in many instances the quantity of the English vocal sounds is not precisely fixed, owing to the neglect in which this branch of phonology has unfortunately fallen. To determine the quantity of each word and syllable in the English language, would of itself require a long elaborate work, and perhaps after all, a great deal would remain doubtful. For instance, the word hart (cervus) is clearly long, while heart (cor) which has precisely the same sound in point of quality, is not quite so long, and yet not absolutely short. The words "or, nor, for," and many others, appear also of the doubtful kind, being sometimes pronounced long and sometimes short, as the euphony of the phrase into which they are introduced may seem to require. I do not pretend here to solve these difficulties, as I am not writing a treatise upon quantity. . . .

Inasmuch as Du Ponceau uses, for example, the same name for the sound of e in me and the sound of i in bit, he is operating along the same lines as the modern phoneticians who use [i:] for the first and [i] for the latter, or as some phonemicists who would use the same symbol for both. However, Du Ponceau makes many distinctions which, in the light of modern thought and practice, are not valid.

English Phonology: The Vowels

In his analysis (p. 250 ff.), Du Ponceau describes first the vocal sounds.

The name "Aulif" is used for /ɔ/. The long value is as in all, walk, author, ought, baulk, raw, awe, fortune, and ought. This is undoubtedly [ɔ]. The short value is illustrated by words such as quality, authority, pot, not,

broad, cough, and trough. Probably this is [ɒ]. Du Ponceau says that Walker distinguished between the sounds of o in nor and not, but writes (p. 251), "[I] cannot find any difference between these two sounds; to my ear they appear exactly alike."

The second vocal is called "Arpeth." Its long value appears to be [ɑ]. The long value is represented in such words as art (n.), ah! aunt, jaunt, heart, and hearth. Du Ponceau has an interesting footnote to the long sound of "Arpeth." He writes (p. 251):

This sound is not used in the French language, except in solemn recitation, at the bar, on the stage and in the pulpit, when the words having an E ouvert, as fête, terre, père, &c. are pronounced with the broad sound of Arpeth. In the colloquial language, they take the more acute sound of Airish [q. v.].

It is true, that in the "French country" of Louisiana, the sound of the vowel in both the first and last syllables of a word such as derrière approaches, and often in unstudied speech actually is, [ɑ].

It has been stated that the long value of "Arpeth" appears to be [ɑ]. This is by no means certain. As with Franklin, so with Du Ponceau the precise phonetic value of the symbol a, in the one case, and the sound called "Arpeth," in the other case, is disputed. Krapp states flatly that "Arpeth" represents [æ].³⁹ Logically, this does not seem to follow.

³⁹George Philip Krapp, The English Language in America, in two volumes (New York: Century-Appleton Company, 1925), Vol. II, p. 72.

Du Ponceau recognizes that there is a French value of a which is not English and an English value of a which is non-French. In today's speech, those would be [a] and [æ], respectively. In Pickering's Uniform Orthography (see p. 158 ff.), the vowel sound in father and far seems definitely to be [a]. It does not necessarily follow that Du Ponceau considered these words had the same vowel sound that Pickering represents them as having, but the close relationship between the two men would lead one to think so. Certainly Du Ponceau does say that the a of car, par, have different sounds in French and English and, following, says that the French cannot express the English sound in hat, fat. This would lead one to believe that the sound in English car, for example, is neither the French sound of car nor the English sound in hat (see pp. 94-95).

However, the confusion is not greatly clarified by an exchange of letters between Pickering and Du Ponceau.

Pickering's letter to Du Ponceau is dated July 29, 1820.

I have as you know made "the foreign sounds of the vowels" the basis of my alphabet, for the purpose of having it more extensively useful, than it would be, if I had governed myself by the sounds of our own language. Now, will it not occasion embarrassment, if instead of taking A to describe the sound of our a in father, far, &c. I should use it to denote the broad sound it has in all, &c. and for the same reasons shall I not depart from the fundamental principles of the Dissertation by employing ae (which has a common sound in European languages) to denote the a in father, &c.? There is an objection, I am aware, to beginning the list of vowel sounds with what we usually call a diphthong (aw) (for I agree with you as to the classification of ye sounds): But I have thought the list of the Vowels might begin with the second a (in father) and that the aw might be remarked upon in a short scholium or note on the

vowels. I say aw because after much consideration that appears to me to be the best mode of denoting the sound, unless we adopt a new character; which, as you justly observed, is to be avoided whenever it is practicable.⁴⁰

Du Ponceau answered promptly and at length:

. . . æ for a in Father &c Nothing embarrassed me so much as this sound. After much reflection, I have been convinced that broad a or aw, & acute a in grace, the same with the French e long in fée, née, crée, & when short English e in met, wet & French e short in trompé, donné, &c. are the two extremities of a Series of intermediate Sounds--this to an English ear; for to a French ear, I would address myself differently. I would say that the French a long in pâle, mâle [sic], & short in marque, patte, which sound the English has not, is the beginning, the head of the chain which leads downward to e, & the tail of another chain which leads upward to o, in which latter chain, aw is intermediate, participating of French a & o-- Hence in English you find it often expressed by o as in fortune, mortal, &c. Hence the coarse vulgar Germans (the Swabian peasantry particularly) pronounce the affirmative Ja as Yäo, or as I would write it Yä. The Swedes had this sound in their language which they represented by ä, and the Danes by aa; these two Nations have preserved the signs a & aa, but now their pronunciation having been softened down by Civilization, they have dropped the old sound & kept the sign, so that they write in Swedish pa, and in Danish paa, & in both languages pronounce poh, with the sound of our o in robe, globe.

The French in common conversation, pronounce their a in a manner which I repeat we have not in English & therefore which I cannot express on paper; it can only be found by trying something between broad aw & a in Father-- When they recite on [sic] the theatre or in the pulpit, whence they needs must be heard from a great distance, they open their mouths, & their a becomes our aw or o in God; on the other hand the lisping Beaus, particularly of late times, will sharpen it down to the sound of our a in father; this I have lately observed in many, particularly in the ladies, but to my ear it savours of affectation, for the true French a sounds in medio, & the sound

⁴⁰Thomas A. Kirby, John Pickering and Peter S. Du-ponceau, A Selection of Their Correspondence (unpublished manuscript), pp. 151-152.

proceeds more from the breast, than aw which comes in part from the head, & a in Father from the throat.-- This, of course, will be unintelligible to a mere English ear, & therefore I assume for such ears, as to them & for them you certainly must write, that aw is the head of the scale, & a in Grace, the foot. Now between these two I find in the English language two intermediate sounds [:]

1. a in Father, carter, &c.
2. a in mare, care, or ai in fair, stairs &c.

You will observe that to the French, the first of these is sometimes an a, sometimes an e, for on the Stage, they will pronounce their long e in tête, fête, much with the sound of a in Father, or rather quite so to be better heard, while the lisping beaus, as I have said, will sharpen their a down to it.

The 2d. is in French always an e. Were you to represent to a Frenchman's eye, the sounds of our words care, fair, you should write kêre, fêre, or kerre, ferre, for thus they pronounce guerre, terre--

In an Indian Alphabet, it would be too nice to give those two intermediate sounds of a in Father, & a in can (which in my Phonology I have called arpeth & airish)--but I don't see how you can avoid giving one of them, and as this middle sound participates of a & e, & is to my ear an intermediate one between them, I had chosen the Diphthong ae, or æ, as the best I could think of without inserting a new character. Perhaps it would be best to have but one sign A for aw & A in father, for after all, both are the same sound a more or less open; but then you must have something for the intermediate sound ai in fair, a in care &c. or the French e in guerre, fête; then æ, participating of both, appears still to me the best, yet I don't object to any other sign or mode, oly I say I cannot discover it.

I would therefore say:

- a. English & French a open
- æ. English a medium, or French e in guerre, fête &c.
- e. English e acute in grace, place, French e acute in née, épée &c.

I would then explain in my Dissertation or elsewhere, that this English a medium, as I express it is an intermediate sound between a apertum, and e acutum, that to an Englishman it is an a & to a Frenchman an e.

In Italian, In German &c. this middle Sound is also an e or an æ terra, tierra, ferro, maehrchen, waehlen, fehler &c.

As to the objection that æ has already a fixed sound, this is true, but it will apply also to almost all your Vowels,--which have a fixed sound in English, different from that you give them.⁴¹

The discussion of the short sound of "Arpeth" is both confusing (one should say, also) and ingenious. Du Ponceau gives examples of the short sound as follows:

1. By a, in art, (verb,) man, carry, mortar, partition.
2. By e, in herd, merchant, terrible.
3. By ea, in learn.
4. By i, in fir, sir, third, bird.

The actual sound in example no. 1, above, was perhaps [æ] when stressed. The verb "art" is still pronounced in Pennsylvania, in some sections, as [ært]. The sound [a] appears to be eliminated by Du Ponceau's remark on the vowel sound of French car, par, as being a non-English sound and the vowel of English hat, fat, being a non-French sound. Webster writes that "a in cart has its short sound in carry . . ."⁴² Benjamin Franklin transcribed man and can with the same symbol. The sound of a in mortar and partition would

⁴¹Ibid., pp. 159-162. Kirby retains throughout Du Ponceau's own eclectic typography, with an occasional [sic].

⁴²Noah Webster, Dissertations on the English Language (Gainesville, Florida: Scholars' Facsimiles and Reprints, 1951), p. 84.

⁴³Benjamin Franklin, "A Scheme for a New Alphabet and Reformed Mode of Spelling," Jared Sparks, The Works of Benjamin Franklin, in ten volumes (Boston: Tappan & Whittemore, 1838), Vol. VI, p. 302, line 18.

appear to be what most present-day phoneticians would write as [ə], or rather, paralleling Du Ponceau's view, as [e] plus [r]. This is in line with Du Ponceau's idea that the vowel in the unstressed position differs from the vowel in the stressed position only in quantity and not in quality. Obviously, if the unstressed vowel in these words can be described as the short sound of "Arpeth" or [a], then the vowel sounds in examples 3, 4, and 5 can likewise be so described, since they would be transcribed by most modern phoneticians as [ɜ] or [ɛ]. Du Ponceau, however, in a footnote (p. 252) to example no. 4, gives an ingenious argument in support of his description:

The vulgar pronunciation of these words and others similarly spelt, is fur, sur, thurd, burd, but I do not think it correct. Walker and Sheridan, have adopted it in their pronouncing dictionaries, except as to the word fir, in which they differ, Sheridan representing it by fur and Walker by fēr, by which he indicated the short sound of the letter e in the words met, bet. Both these Grammarians explain the pronunciation of firkin, by ferkin, and that of firm by ferm. In a number of other words in which i short thus precedes the consonant r, these two writers are thus found to differ from each other and from themselves, which shews at least that neither of them had certain ground to rest upon. If the sound of i in sir, third, bird, is that of u short, it must be the same in fir, firkin, firm, firmament, &c. for in all those words that vowel is sounded exactly alike, yet it is impossible not to perceive a difference between the pronunciation of i in fir, (a species of tree) and that of u in fur the skin of a wild beast.) This obvious distinction did not escape Mr. Walker, and obliged him to drop his favourite u short, in all the words which begin with the syllable fir, although not differing in pronunciation from other words in which he employed it. Mr. Sheridan, on the other hand, ascribed the sound of u short to the i in fir, and that of e to the same vowel in firkin, firm, firmament. The reason of these variations is, that those writers paid no regard to quantity, while the true test of the pronunciation of a short vowel is to lengthen its sound,

and see what it will produce. Had Walker and Sheridan used this method, they would have found that the pronunciation of i in firking and firmament, whatever it may be, is by no means that of e in met, bet, as they both have explained it.

I consider the sound of i in these and all other similar words to be that of arpeth, pronounced short. To prove it, I take, for instance, the word bird, in which I find the sound of the i to be the same with that of a in bard, except that the first is short and the last is long. To bring this to a sure test, let the word bard be articulated, let its vowel sound a be prolonged, and then suddenly shortened, it will end with the sound of i in bird, thus bā-ā-ā-īrd. Again, in the words thou art, accent the word thou, and the a of the word art, pronounced short, will produce the sound of i in bird. It is still the sound Arpeth, only shortened.

Obviously, Du Ponceau heard a schwa-like glide sound and the schwa-like unstressed vowel. But the analysis, up to a point, is both accurate and definitely ingenious.

For the moment, the third vowel sound, "Airish," will not be considered, but rather the fourth vocal sound, "Azim." This is probably the phoneme /e/. The long value, [eɪ], is illustrated by such words as grace, fame, maid, gaol, pay, say, and taylor. The short value, probably [ɛ], is illustrated thus:

1. By a, in surface, desperate, agreeable.
2. By æ, in Dædalus, (proper name.)
3. By ai, in again, captain.
4. By e, in bet, met, tell, sell.
5. By ea, in head, bread, stead.
6. By eg, in phlegm.
7. By ei, in heifer.
8. By eig, in foreign, foreigner.
9. By eo, in leopard, feoffment, jeopardy.
10. By ie, in friend.
11. By u, in busy, burial.

The only peculiarity here is the inclusion of busy, which must certainly have been an error on the part of the author, as the word is also listed under "Elim" (see p. 115). Besides the

list above, the evidence for considering this short sound of "Azim" as [ɛ], includes the following: Franklin transcribes foreigners,⁴⁴ spell,⁴⁵ and similar words with the symbol which he illustrates by men, lend, name, lane,⁴⁶ although he transcribes friend⁴⁷ with the symbol used for [ɪ]; Webster states that "a in late has its short sound in let . . ."⁴⁸ The necessity for the above discussion will become apparent when the third vocal sound, "Airish," is considered.

The fifth vocal sound is called "Elim." This certainly represents the sounds of the phoneme /i/. The long sound is undoubtedly [i], as it is illustrated by such words as Caesar, raisin, scene, sea, speak, Greece, impregn, seize, people, and key. The inclusion here of raisin is somewhat surprising, although Webster remarks: "Reesin for raisin is very prevalent in two or three principle towns in America. . . ."⁴⁹ The short sound of "Elim" is something like [ɪ], when illustrated by the last vowel sounds in such words as villain, simile, guinea, committee, surfeit, very, and

⁴⁴Franklin, op. cit., p. 302, line 7.

⁴⁵Ibid., loc. cit., line 2 and others.

⁴⁶Ibid., p. 296.

⁴⁷Ibid., p. 303, line 30.

⁴⁸Webster, op. cit., p. 84.

⁴⁹Ibid., p. 116.

mystery. It is no doubt [ɪ] in such words as it, bit, busy, business, build, and guilt. Also included here is the illustration: "By oy, in buoy, (pronounced booy.)" The pronunciation survives and is listed as preferred in the current edition of Webster's New International Dictionary (unabridged).

The sixth vocal sound, "Oreb," includes what Du Ponceau considers the sounds of the phoneme /o/. The following examples of words containing the long sound indicate it to be [ou]: beau, sew, yeoman, robe, groan, doe, oh, yolk, door, depot, mould, flow, owe, dough. The short sound, however, is of a different phoneme, except in one example, [o] when spelled "by ow, in narrow, fellow." The other examples indicate the sound [ʌ]:

1. By o, in done, son, above, love.
2. By oo, in flood, blood.
3. By ou, in rough, tough, covetous, righteous.
5. By u, in sun, dun, dull, but, mud.

Here, as Pickering observes (see pp. 100, 101), Du Ponceau is in obvious error, and must have been misled first by his eye, that is, by the spelling of some of the words above with the letter o, and then by observing the same sound spelled with u.

The phoneme /u/ is represented by the seventh vocal sound, "Oomin." The sounds [u] and [ju] are illustrated by the words pertaining to the long sound: galleon, view, new, few, move, prove, shoe, manoeuvre, fool, pool, amour, tour, through, rule, rue, accrue, suit, fruit. One is led to believe that galleon must have been pronounced by Du Ponceau as [gæljun], as eo represent here the spelling of

"Oomin." The words new and few must have been pronounced with [ju] or [ru], as here the long sound is spelled with w. Similarly, view is represented as having the long vocal spelled by ew. On the other hand, suit and fruit must have been pronounced [sut] and [frut], as in these word "Oomin" is spelled by ui. The following illustrates the short sound of this vocal:

1. By au, in beauty.
2. By o, in wolf.
3. By oo, in hoof, cook, foot.
4. By u, in bull, pull.
5. By ue, in construe, construed.

Beauty, then, was probably pronounced [bjutɪ]. Of construe, Du Ponceau remarks in a footnote (p. 256): "The last syllable of construe is long or short according to the place which the word occupies in a sentence. Ex: This is hard to cón-strûe.--I cónstrûe it so."

At this point, it will be observed that the first, second, fourth, fifth, sixth, and seventh vocal sounds of Du Ponceau include all the vowels of standard English, with the exception of the retroflex central vowels, which Du Ponceau evidently considered as vowel-plus-[r]. The following tabulation with phonetic interpretations in IPA notation will clarify the preceding statement:

1. [i] is the long sound of "Elim," the third vocal.
2. [ɪ] is the short sound of "Elim."
3. [eɪ] is the long sound of "Azim," the fourth vocal.⁵⁰

⁵⁰It should be remarked that nowhere does Du Ponceau indicate that the long sounds of either "Azim" or "Oreb" are

4. [ɛ] is the short sound of "Azim."
5. [a] is the long sound of "Arpeth," the second vocal.
6. [æ] is the short sound, or one of the short sounds, of "Arpeth."
7. [ə] or [ɜ] is one of the short sounds of "Arpeth."
8. [u] is the long sound of "Oomin," the seventh vocal.
9. [ʊ] is the short sound of "Oomin."
10. [ʌ] is the short sound of "Oreb," the sixth vocal.
11. [oʊ] is the long sound of "Oreb."
12. [ɔ] is the long sound of "Aulif," the first vocal.
13. [ɒ] is the short sound of "Aulif."

The inclusion of the third vocal, "A Irish," casts doubt on the validity of the above tabulation. This vocal is described as follows (p. 253):

This sound when long is represented

1. By a, in hare, mare, care.
2. By ai, in hair, fair, stairs.
3. By ay, in Mayor.
4. By ea, in pear, bear.
5. By ei, in heir.

And when short

1. By e, in very, merry, where, there.
2. By ea, in leather, feather, measure.

The long sound might be assumed to be either [e] or [ei], were it not that this sound is clearly indicated by the long value of "Azim," as in grace, fame, etc. It would also be reasonable to assume the sound to be [ɛ] or [ɛ:], were this

are diphthongs in his opinion. Therefore, perhaps [e] and [ɔ] should be substituted for the phonetic notations used.

not clearly indicated to be the short sound of "Azim." Moreover, Du Ponceau, in his footnote comment on the pronunciation of fir indicated by Walker, writes that "he [Walker] indicates the short sound of the letter e in the words met, bet." Finally, one could, with equal reason, suppose the long sound of "Airish" to be [æ], were it not that the short sound of "Arpeth" is described (p. 251) in the first example given as spelled "By a in art, (verb,) man, carry, mortar, partition." Mortar and partition may be disregarded, as the sound indicated there is obviously [ə]. Since Du Ponceau uses the verb art, unstressed, as an example of a sound which has been analyzed herein as [ə], perhaps this example may also be disregarded. Can man and carry also be disposed of, so as to eliminate [æ] from consideration as the short sound of "Arpeth"? The answer is yes only if one considers that Du Ponceau was thinking of man as an unstressed word in connected discourse (which seems unlikely), i. e., [mən], or that he pronounced it [mən] (which also seems unlikely), and that he regarded carry as pronounced [kəri] or [kəri]. If the foregoing assumptions may be made, then one may consider the short sound of "Arpeth" as either [ə] or [ɛ] or both. Further, one may consider the long sound of "Airish" as [æ]. However, this still leaves the problem of the short sound of "Airish" unsolved. To the present writer, it is obviously [ɛ] and is identical with the short sound of "Azim." To the present writer, the long sound of "Airish" also seems to be [ɛ], and

the difference between the long and short sounds of this vocal is truly one of length, but not consistently so. A footnote to "Airish" adds somewhat to the possibility of considering it as [ɛ]. Du Ponceau writes:

There is a real difference between the two sounds which I call Arpeth and Airish, though some have confounded them together as if they were the same; a Frenchman will hardly be persuaded that they are different sounds, he will call airish an e ouvert, and arpeth, an e plus ouvert. . . .

Then he adds an example of the confusion of the two sounds:

. . . The Virginians in almost every case employ the second sound of Arpeth, instead of Airish, as in there, where, stairs, which they pronounce as if they were written thahr, whahr, stahrs. This vicious pronunciation is striking to those who are not accustomed to it, and shews the essential difference which exists between the two sounds. . . .

One final comment on this problem: Du Ponceau writes, in a letter to Pickering, devoted to the problem of the representation of certain vowel sounds (see pp. 110-112), with respect to the "two intermediate sounds of a in Father, & a in can . . ." that in his Phonology they are "called arpeth and airish . . ."

So much for an analysis and conclusions based on that analysis. The confusion inherent in Du Ponceau's descriptive methods is evident and is typical of early nineteenth century phonology. The weaknesses of Du Ponceau's analysis of the vowel sounds of English has three principle causes: first, he is mislead by an over-emphasis of the importance of quantity; second, and closely related to the first, he is mislead by faulty analytic methods, and, though seeking to establish significant differences, made insignificant

distinctions; and third, he is mislead by the very thing that he sought to avoid, the influence of spelling and the habitual concept of letters as actual sounds rather than merely symbols, in determining his concepts of speech sounds.

English Phonology: The Diphthongs

In addition to the "pure vocal sounds," are the "diphthongal sounds, those which are composed of two vocals, rapidly pronounced in succession, so as to form but one syllable." (Pp. 258-259.) Du Ponceau adds that he does not consider as diphthongs those syllables which begin with y or w used as a consonant. He names four diphthongs. The first is represented by oi or oy and is "compounded of Aulif and Elim." This, then, is [ɔi]. The next is described as "compounded of Arpeth and Elim." Examples include mile and die. This is modern [aɪ] and was perhaps heard and used by Du Ponceau as [aɪ] or [ɑɪ]. The third is a combination of Arpeth and Oomin, spelled by ou, ow, and ough. Examples given are foul, fowl, and bough. This is modern [au] and was perhaps heard and used by Du Ponceau as [au] or [ɑu]. In connection with the second and third diphthongs, Du Ponceau writes:

When I say that Arpeth enters into the composition of the second and third diphthongal sounds, I am not, perhaps, perfectly correct; I rather think that it is a middle sound between Arpeth and Aulif, no other in fact than that of the French a, which is not, as I have said before, to be found singly in our language. But, however sensible I am of this distinction, I am obliged to reject it, as too nice in practice. I shall merely observe, that in these diphthongs, the sound of Arpeth should be given as full and broad as possible, without falling into

Aulif. The people of Connecticut, and of the Eastern States generally, pronounce the third diphthongal sound by Airish, and are remarked for this singularity.

One could hardly quarrel with these descriptions, although a phonetician would scarcely describe [a] as being a middle sound between [ɑ] and [ɔ].

The fourth diphthong, Du Ponceau describes as "that which is usually represented by the vowel u, as in pure, endure, usage, &c. . . . It is not," he writes, "a clear and distinct succession of fully articulated sounds, as in the pronoun you; there is something in it more slurred, more delicate, which brings it nearer to a pure vocal sound. I am told that in some of the English provinces, it is pronounced exactly like the French u, and, of course, is there a pure vocal articulation. But according to its most generally received pronunciation, it is more properly a diphthong compounded of Elin and Oomin, delicately pronounced and slurred through in a particular manner, an adequate conception of which can only be conveyed through the ear." This is undoubtedly a description of the vowel often heard in new [niu], tune [t₁un], and like words. One questions the inclusion of the word usage among Du Ponceau's examples, for here the sound is clearly [ju].

Du Ponceau suggests that each of these diphthongs should be represented by a single character, "in order to preserve and indicate their monosyllabic character."

English Phonology: The Consonants

Nasal sounds are discussed (pp. 256-257) in the section devoted to vowel sounds. Du Ponceau notes that pure nasal vowels are never found alone in English, that is, not followed by a nasal consonant. "Yet," he says, "these pure nasal sounds are not the less component parts of the English language, and analytically speaking should be considered apart from the consonant mixtures." These are the vowels which, according to Du Ponceau, take "a nasal modification":

1. "Aulif" [ɔ], as in long, song, among (which last seems incorrectly listed here).
2. "Arpeth"--"The nasal sound of Arpeth, is represented by an, as in lank, thank, sang, mangle." (Here, again, then, is the problem of [æ] as a value of "Arpeth.")
3. The short sound of "Elim" [ɪ], as in ink, think, English.
4. The short sound of "Oreb" [ʌ], as in sunk, clung, monk.

"In a Phonological Alphabet," Du Ponceau writes, "a sign or mark under each nasalised vowel, will be sufficient to represent these modifications of sound. They need no other appropriate character." He had previously suggested a cedilla placed beneath the vowel letter.

He then turns to an analysis of the "organic sounds" or consonants of English (p. 259 ff.), which he numbers at sixteen. These he divides "into classes denominated from the organs of speech that are principally employed in their utterance."

The first class he designates as "labials." They are bee [b], pen [p] and mem [m]. There are two "labio-dentals": vel [v] and fesh [f]. The third class is called "gutturals." These are go [g] and coss [k]. Here he comments (p. 261):

These two organics have a hard and soft sound, the former of which takes place when they immediately precede broad or open vowels, as in call, God, and the latter when they precede acute ones as in gain, king.

He thus recognizes velar and post-palatal stops and the influence of back and front vowels. The fourth class is designated as "linguals." There are four consonants in this class: zhim [ʒ], shal [ʃ] (here he gives among the examples Russian and Prussian, and footnotes the correct pronunciation as "Rush-yan, Prush-yan, and not Rush-an, Prush-an . . ."), zed [z], and sin [s]. Next are the "linguo-palatals." There are three: lamed [l], ro [r], and nim [n]. The sixth class is called "linguo-dentals" and includes four consonants: delta [d], tar [t], thick [θ], and thence [ð]. The seventh and last class is composed of two vocals, yes [j] and war [w]. Of these, he writes (pp. 262-263): "These two sounds belong alike to the class of vocals and to that of organics, as they may be employed in either way. It seems therefore proper that they should have different names and different signs to represent their vocal and organic characters."

It will be observed that in this analysis of "organic sounds" Du Ponceau has included the following consonants, expressed in IPA notation and in Du Ponceau's nomenclature:

Plosives

[b]	, <u>bee</u>
[p]	, <u>pen</u>
[d]	, <u>delta</u>
[t]	, <u>tar</u>
[g]	, <u>go</u>
[k]	, <u>co<u>ss</u></u>

Fricatives

[v]	, <u>vel</u>
[f]	, <u>fesh</u>
[θ]	, <u>thick</u>
[ð]	, <u>thence</u>
[z]	, <u>zed</u>
[s]	, <u>sin</u>
[ʒ]	, <u>zhim</u>
[ʃ]	, <u>shal</u>
[j]	, <u>yes</u>
[w]	, <u>war</u>
[l]	, <u>lamed</u>
[r]	, <u>ro</u>

Nasals

[m]	, <u>mem</u>
[n]	, <u>nim</u>

The affricates are not listed here, but are previously mentioned (see pp. 105-106) and described but not named. So, one may add to the above:

Affricates

[dʒ]	, as in <u>joke</u>
[tʃ]	, as in <u>charm</u>

The following consonants are not described in Du Ponceau's analysis: the voiceless fricative [ɸ] and the velar nasal [ŋ]. There is nothing in English Phonology to indicate that Du Ponceau recognizes the existence of [ɸ] among the sounds of English. However, in a letter to Pickering, dated July 18, 1820, he writes: "Your alphabet makes no mention of wh, in what, Owhyhee, &c. Will you write it hu, or hw as the

the Swedes formerly did, who now with the Danes write it hr, or wh as in English, or . . . w', thus w'at for what?"⁵¹ Apparently he does not consider [ŋ] as a separate nasal consonant, but rather as an allophone of [n] and indicating a certain nasal modification of the vowel, as he cites in his discussion of "nasal sound" under the general heading of "vocal sounds."

English Phonology: Concluding Remarks

Du Ponceau concludes this essay, commenting that he has given names to the sounds without much thought, by saying (pp. 263-264):

. . . Names are of very little consequence; if this analysis should be approved of, and this plan thought worthy of being pursued, it will be easy to invent and apply to the different sounds new denominations in which a greater regard may be paid to euphony and other necessary circumstances than I have thought it worth while to do in this essay, which I present, as I have already observed, as a mere sketch.

Neither have I thought it necessary at present to affix signs or characters to the different sounds. This may easily be done when this or a better analysis shall have received the sanction of the learned. I would merely recommend that the written alphabet should neither be composed of the characters in common use nor of entire new signs. A Phonological Alphabet ought, in my opinion, to be such as to be easily distinguished from the common one, and at the same time not difficult to be understood or retained in the memory. . . .

He proposes, for this reason, to use the Greek alphabet as the basis, adding characters from other languages, especially the Russian. He points out that there would be no need for capital letters or small letters as such. However, he concludes, the form of alphabet used is of minor importance: " . . . the great object to be sought after is a clear and

⁵¹Kirby, op. cit., p. 148.

correct analysis and description of the sounds. . . ."

Some confirmation that long thought and planning preceded this *English Phonology* is contained in a letter dated July 7, 1820, which Du Ponceau wrote to Pickering. He writes, in part:

Already you have two letters full of my tattle. Don't tax it with being the superficial recurring ideas of the moment. It is, I assure you, the fruits of many years deep & constant thinking. It may be incorrect, it may be fanciful, it may be all you please, but Superficial it is not. I have written little, but thought much, & this subject has always been a favourite one with me. I have preserved a plan of an universal alphabet, which I wrote at the age of 16, imperfect it is true, but not without some ideas, which to this moment are yet new. For example, I divided consonants into classes of four, in mathematical relation to each other==

Insp.	Exsp..	I.	E.	I.	E.	I.	E.	I.	E.	I.	E.											
B	:	P	::	V	:	F.		Zh	:	Sh	::	Z	:	S	==	Gh	:	Kh	::	G	:	K
																						(dur)
I.		E.		I.		E.		and so forth:														
Dh	:	Th	::	D	:	T																

I divided consonants into inspires & exspirates, B. inspire, P. expirate — V. inspire, F. expirate; you will find that in pronouncing these letters, the organ in the one expels the breath, in the others draws it in, and so forth. . . . ⁵¹

As with Franklin, so with Du Ponceau--the concept of voiced-voiceless eludes him; moreover, his physiological description is wrong. Nevertheless, his division is correct.

It may be well at this point to reiterate a critical evaluation of Du Ponceau's English Phonology. It is, on the whole, a well-conceived work, carefully and ingeniously executed. In theory and in a general view of phonology, Du

⁵²Ibid., p. 117.

Ponceau was an advanced thinker. His analytic techniques could not, however, successfully transcend weaknesses inherent in his training and habits of thought. Moreover, his observations were purely subjective and he did not possess the scientific aids available to modern phoneticians.

Pickering and Du Ponceau: Broadening Horizons

Du Ponceau's English Phonology seems to have opened new lines of thought for John Pickering. As his friendship with the Philadelphian rapidly developed, Pickering awakened to new applications of his scholarship. Mary Orne Pickering relates:

It was in the year 1810 that my father's attention seems to have been first attracted to the aboriginal languages of North America, by meeting with a chief of the Oneida tribe who visited Salem in the autumn of that year. From him my father obtained the alphabet of the Oneida language and a list of a few common words.⁵³

However, this interest languished until reawakened by Pickering's contact with Du Ponceau. In the words of Miss Pickering (p. 281):

In the early part of the year 1819 my father's attention was particularly attracted to the critical study of the Indian languages of North America. His friend Mr. Du Ponceau had made a Report to the Historical Committee on Indian Languages at Philadelphia, and had sent my father a copy of it by mail. In a letter accompanying a second copy, Mr. Du Ponceau says: "I should be very happy if I could draw your attention to this interesting subject, which your talents are so well calculated to elucidate."

In his reply, Pickering expresses the pleasure with which he

⁵³Mary Orne Pickering, p. 291.

had read Du Ponceau's paper. He informs his friend that it "excited an interest in the subject of the Indian languages and history" which he had never felt before. He expresses regret that he does not, at the moment, have time to pursue the subject, but adds that he hopes to find subsequent leisure time. The result of this awakened interest was Pickering's Memoir on an Uniform Orthography for the Indian Languages of North America, which is considered in detail in the following chapter.

By this time, Pickering had achieved considerable honor as a scholar. Du Ponceau, in a letter dated October 21, 1820, informs him that he had been unanimously elected a member of the American Philosophical Society.⁵⁴ In 1821, Pickering was much engaged with political and legal affairs but found time for some work on Indian languages. It is in this year, also, that he began a long correspondence with the Baron Wilhelm von Humboldt. The first letter from Baron Humboldt, dated at Berlin, February 24, 1821, was received by Pickering on June 6. This was the beginning of an ardent literary correspondence, which seems to have developed into a warm friendship, although the two men never met each other face to face. Baron Humboldt was, and remains, one of the most noted of European nineteenth century philologists. He was a pioneer in research in connection with the

⁵⁴Ibid., p. 289.

Basque language and people. As early as 1821, he determined, on the evidence of place names, the descent of the Basques from an earlier, more widely spread people, the Iberians of Spain and the Aquitanians north of the Pyrenees.⁵⁵ His linguistic interests were by no means limited to Indo-European languages. According to Pedersen, "Wilhelm von Humboldt treated the ancient language of Java in his famous work *Ueber die Kawi-Sprache auf der Insel Java* (Berlin, 1836-39), in which the kinship between Indonesian and Polynesian is clearly proved. . . ."⁵⁶

The broadening view of languages which was developing among European philologists and linguists was well exemplified in America by Pickering and Du Ponceau.

Much of the literary endeavors of both Pickering and Du Ponceau was in the field of Indian languages during the next few years. It must be remembered also that both were practicing jurists and that Du Ponceau was the author of many works on jurisprudence. Complimenting Pickering on his legal accomplishments in a letter dated November 9, 1841, Du Ponceau writes: "Philology, after all, is but an amusement and an object of curiosity; but law is a useful science, beneficial to mankind." (Mary Orne Pickering, p. 481.) This must be taken with more than a grain of salt,

⁵⁵Holger Pedersen, Linguistic Science in the Nineteenth Century, authorized translation from the Danish by John Webster Spargo (Cambridge: Harvard University Press, 1931), p. 124.

⁵⁶Ibid., p. 130.

considering Du Ponceau's lifelong devotion to philology. Pickering, in addition to his activities as a writer and as a jurist, apparently also spent some time on the lecture platform. His daughter writes (p. 397) that he delivered several times, with notable success, a lecture on the "Language of Signs," concerned with telegraphic signals as a medium of communication.

The Language of Lord North's Island

In 1836 a curious bit of literary esoterica appeared with Pickering as the author. This was a book which ultimately appeared as the memoir titled "On the Language and Inhabitants of Lord North's Island in the Indian Archipelago; with a Vocabulary." Miss Pickering writes (p. 422):

In the summer of 1835 my father became deeply interested in the history and misfortunes of two young American seamen who had sailed from New Bedford in 1831, in a whaleship that was wrecked at the Pelew Island in 1832. After two years of captivity and unheard-of suffering among the barbarous inhabitants of Lord North's Island . . . these young men had been taken to China by a British bark passing the island, and had been brought from Canton by an American ship arriving at New York in May of this year.

Pickering had become acquainted with one of the sailors, Horace Holden, his daughter continues (pp. 423-424) and became greatly interested in "an aboriginal language unknown to the civilized world . . ."

. . . The familiarity with the language of Lord North's Island which had been acquired by Horace Holden gave my father a valuable opportunity of investigating its character; and he found that it possessed a near affinity to the dialects of the neighboring Caroline Islands, judging from the numerals and a few other words hitherto collected

in that region by travellers. My father voluntarily undertook to put into shape the materials for Holden's narrative furnished by him; to which my father added a Preface and a Vocabulary of this new and unknown language. This little book, of one hundred and thirty-three pages, with two descriptive woodcuts, was printed in Boston for Horace Holden's benefit; it reached its fourth edition in 1836, and contributed to his support, aided by his friends, until his restored health and their efforts enabled him to obtain a place in the United States South Sea Exploring Expedition under Commodore Wilkes.

As has been mentioned, this book later appeared as a memoir of the American Academy of Arts and Sciences.⁵⁷

The linguistic value of this work lies chiefly in the appended vocabulary, which Pickering himself appraises as follows (p. 206):

The vocabulary accompanying this communication, derives its principal value from the circumstance of its being the only one, which has been yet collected, of the language of these secluded islanders. As, however, a long time will probably elapse before we shall have the means of obtaining any additional information of this dialect, or of the wretchedly destitute and inconsiderable tribe of people who inhabit this little island, it will be of some utility, with a view to philological and ethnographical researches, to preserve this as one of the specimens of human speech,--as one fact in the history of the human race.

This vocabulary, concluding the rather brief memoir, is written with an orthography described by Pickering (p. 235) as "conformable to the principles of a practical 'uniform orthography,' formerly proposed by the author for the unwritten Indian languages of North American, and

⁵⁷Pickering, "On the Language and Inhabitants of Lord North's Island in the Indian Archipelago; with a Vocabulary," Memoirs of the American Academy of Arts and Sciences, New Series, Vol. II (Cambridge and Boston: Metcalf and Company, 1846), pp. 205-247.

now used by the missionaries among the Indian tribes. The system was adopted many years ago by the American missionaries at the Sandwich Islands." This rather curious development will be discussed in the following chapter.

Du Ponceau's Mémoire

In the fall of 1835, Du Ponceau completed a prize-winning mémoire for the French Institute. In a letter to Pickering, dated September 30, 1835, he says:

. . . You have heard, I presume, that the French Institute have awarded me a medal of twelve hundred francs for a Memoir on the Algonkin family of languages. It was written in great haste; I had only five months for it, therefore I had no idea of publishing it; I did not even keep a complete copy of it. . . .⁵⁸

The memoir was published, however, in 1838.⁵⁹ A full discussion of it properly belongs to and is included in the next chapter; however, it is referred to here in order to see more clearly the esteem in which Du Ponceau was held and to illustrate his approach to the science of linguistics.

J. B. B. Eyriés writing in the "Advertissement de l'éditeur" has this to say of Du Ponceau:

Les compatriotes d'adoption de M. Du Ponceau ont récompensé son zèle pour les lettres: depuis plus de dix ans, il a été, chaque année, réélu président de la Société philosophique américaine; il a succédé dans cette place à Jefferson, qui avait eu Franklin pour prédécesseur. M. Du Ponceau est également président d'autres sociétés savantes de Philadelphie et

⁵⁸Mary Orne Pickering, p. 425.

⁵⁹Du Ponceau, Mémoire sur le Système Grammatical des Langues de Quelques Nations Indiennes de l'Amérique du Nord (Paris: A. Pihan de la Forest, 1838).

membre de plusieurs compagnies du même genre en Europe. Il n'est donc pas surprenant que l'appelle fait aux philologues par l'Institut de France lui ait inspiré le désir de se lancer dans l'arène. Cette tentative a été heureuse; il a obtenu le prix.⁶⁰

In this connection, Whitehead writes:

. . . His interests were so widespread and his prominence in the scholarly world so great that by the time of his death he had been granted membership in twenty-three American and nineteen foreign learned societies.⁶¹

Somewhat of Du Ponceau's approach to linguistics is shown at various places in his "preface" to this Mémoire. Discussing the fallacy of speaking of "barbaric" languages, he writes (p. 2):

. . . On a appris, enfin, qu'il n'y a point de langue barbares et que toutes celles qui existent sur la surface de notre globe ont, comme les plantes et les animaux, chacune une organisation qui lui est propre, que la nature, aidée des combinaisons de l'esprit humain, a produite elle-même et que la science ne peut ni détruire, ni essentiellement altérer; mais il a fallu du temps pour arriver à cette hauteur où la philologie se trouve maintenant placée.

Following (pp. 2-3), he discusses the former stagnation of philology and the impetus given to new developments by Empress Catherine of Russia, herself an amateur philologist, who conceived the idea of making a comparative vocabulary of all known languages. Du Ponceau, in this connection, speaks of the vistas opened by the discovery of Sanskrit.

He was keenly aware of the development of linguistics

⁶⁰Ibid., p. 1x.

⁶¹Whitehead, op. cit., April 1939, p. 191.

as a comparative science. He says (p. 53), "Nous sommes dans le siècle des sciences comparatives. . . ." He recognizes, however, the limitations inherent in the method of comparing isolated words. Using two linguists, Grotius⁶² and Gêbelin, as examples, although praising them in some respects, he says (pp. 22-23) that they took no regard of structure or grammatical forms in their researches into primitive languages:

. . . Leurs recherches se sont bornées à la comparaison de mots isolés et à ce moyen, en prêtant un peu à la lettre, il est possible de tout trouver, depuis alphana jusqu'à equus. Par exemple, le ministre suédois Campanius, fait dériver le mot cuun, qui dans la langue delaware signifie neige, d'un mot hébreu qu'il traduit en latin par aptavit, disposuit, paravit, constituit. "La neige," dit-il, "comme la pluie, prépare la terre et la rend féconde. Donc le mot indien qui signifie neige vient du mot hébreu qui signifie préparer." Et voilà la langue primitive toute trouvée, c'est l'hébreu à n'en pas douter.

Du Ponceau's Essay on Chinese

The same year which saw the publication in French of a work on North American languages by Du Ponceau, also saw the publication in English of a work on the Chinese language by Du Ponceau.⁶³ This was not his first essay in the

⁶²Hugo Grotius (Huig van Groot) (1583-1645), Dutch statesman, lawyer, and Latin and Greek scholar, was the author of several plays in Latin and other works dealing with the Latin and Greek languages.

⁶³Du Ponceau, A Dissertation on the Nature and Character of the Chinese System of Writing, in a Letter to John Vaughan, Esq. To Which are Subjoined, a Vocabulary of the Cochinchinese Language, by Father Joseph Morrone, and A Cochinchinese and Latin Dictionary (Philadelphia: Published for The American Philosophical Society, by M'Carty and Davis, 1833).

field of languages non-American and non-European. Almost twenty years before, he had begun a correspondence of five or six years duration with William Shaler and W. B. Hodgson in Algeria. This resulted, according to Whitehead, in his ". . . editing and publishing in 1824 a series of letters from Shaler on the language, manners, and customs of the Berbers."⁶⁴ This was published as a memoir by the American Philosophical Society.⁶⁵

The dissertation on Chinese writing was an exceedingly unorthodox study. According to Whitehead (pp. 190-191), it "aroused considerable controversy among international scholars and won the distinction of a forty-three page review in the Journal Asiatique."⁶⁶ It was the subject of what is usually termed "a glowing review" by an anonymous writer in the North American Review of January, 1839. This reviewer writes:

This is undoubtedly one of the most remarkable publication of the present day. The able author,--the veteran philologist of America,--was the first writer, who gave to the learned world just views of the extraordinary structure and peculiarities of

⁶⁴Whitehead, op. cit., p. 190.

⁶⁵Du Ponceau and W. Shaler, "On the Language, Manners, and Customs of the Berbers of Africa; in a Series of Letters from W. Shaler to P. S. Du Ponceau, with an Introduction by the latter," Transactions of the American Philosophical Society, New Series, 1828 (Philadelphia: Abraham Small, 1825), pp. 438-465.

⁶⁶Published in Paris and devoted to the works of orientalists.

the aboriginal languages of the continent. . . .⁶⁷

This high praise, whether deserved or not, can be better understood when one learns that the reviewer was none other than John Pickering.⁶⁸ It will be readily perceived, however, that Du Ponceau's unorthodox views must not have met with the approval of most sinologists of the day.

Although the Dissertation on the Chinese language has been called Du Ponceau's "most brilliant linguistic publication,"⁶⁹ it suffers from what the author terms (p. xxx) a "defect in method." The article began as a literary letter to John Vaughan and was originally read before the American Philosophical Society at a meeting of December 2, 1836. It was referred by that Society for publication to its Historical and Literary Committee. For the publication, Du Ponceau wrote a lengthy introduction. Much of the introduction is amplification and addition to the original "Letter." Hence, there is much repetition and a rather untidy organization, as a whole. This lack of tight organization is not helped by the addition of the appendices.

⁶⁷"Du Ponceau on the Chinese System of Writing," North American Review, January 1839, pp. 271-310, see p. 271.

⁶⁸Mary Orne Pickering, p. 455.

⁶⁹Franklin Edgerton, "Notes on Early American Work in Linguistics," Proceedings of the American Philosophical Society, Vol. 87 (Philadelphia: The American Philosophical Society, 1944), p. 28.

Briefly, Du Ponceau has two major contentions: (1) that Chinese is not ideographic but phonetic and (2) that written Chinese is not mutually intelligible to persons using mutually unintelligible forms of the spoken language. Du Ponceau makes it clear that he does not consider the written form of Chinese as a language. He writes (p. 47): "The moment you admit any system of writing to be a language, and not the representation of a language, you introduce two languages into the nation that makes use of it . . ."

The first of these major contentions is stated and restated many times in the course of the introduction and in the body of the Dissertation, as for example (pp. 30-31):

. . . I shall . . . content myself with endeavouring to prove that the Chinese writing is not, as it is called, ideographic, and that it does not represent ideas, but syllables and words, all of which come within the general denomination of sounds, and therefore, that it belongs to that class of graphic systems, to which philologists have given the name of phonetic, though the sounds which its characters represent are not, with very few exceptions, the primary elements of which our alphabets are composed.

. . . In our modern languages, we hardly ever apply the word sound to the elements of speech, we almost always designate them by the word letters. Thus we say that a Delaware Indian cannot pronounce the letter F, meaning the sound which that letter represents. This confusion of language produces a confusion of ideas, and our word alphabet, formed of the names of two elementary sounds, represented to the eye by the signs A and B, adds to its effect on the mind. Although we know that there are systems of writing in India, the characters of which represent syllables, and though we call the series of those characters a syllabic alphabet, yet, when we use that word, abstractedly, those characters are hardly ever present to our minds, and we only think of alphabets of elementary sounds, like our own, much less do we think of any sounds consisting of more than one syllable. Hence it follows, that when in the Chinese characters or Egyptian hieroglyphics, we look for the signs that we call phonetic, we are

disappointed unless we find such as represent the most simple elements of speech.

An apt summary of Du Ponceau's views on the phonetic nature of Chinese is contained in the following in Du Ponceau's own words (p. 204):

From all that I have said, I conclude that the Chinese system of writing is improperly called ideographic; it is a syllabic and lexigraphic alphabet. It is syllabic, because every character represents a syllable; it is lexigraphic, because every syllable is a significant word. I do not know of any other denomination that can be properly applied to it, and this appears to me to be sufficiently descriptive. I submit it, however, to the judgment of those who are better acquainted with the subject.

Du Ponceau's Dissertation on the Nature and Character of Chinese Writing is virtually unknown today, even to specialists in the Chinese language. Its effect on the sinologists of Du Ponceau's own day was probably negligible. Had it been widely read, its effect should have been, at the very least, stimulating. Its approach was almost completely unorthodox. It contains a wealth of material. On its own premises, it is logical. As Pickering comments:

Adopting, as we do, the reasoning of Mr. Du Ponceau, it is difficult for us to resist his conclusion; which is, that the Chinese characters are not unconnected with sounds, unless it should be contended,⁷⁰ (as he observes), that a syllable is not a sound.

Pickering himself was obviously fascinated with the subject matter,⁷¹ and, in the year following his review, according

⁷⁰"Du Ponceau on the Chinese System of Writing," p. 294.

⁷¹Pickering was a founder and the first president of the American Oriental Society (Edgerton, p. 28).

to his daughter, had an article on the language of Cochin-China published in the Boston Courier of July 21, 1840.⁷²

In the next year, Miss Pickering writes (p. 472):

An article on the Cochin-Chinese Language, reviewing Bishop Taberd's Anamitic Dictionary, and referring to Mr. Du Ponceau's work on the "Nature and Character of Chinese Writing," was contributed by my father to the "North American Review" for April, 1841.

Du Ponceau's two main contentions, that Chinese writing is phonetic and that Chinese writing cannot be understood by persons who, though using the same written symbols, speak dialects which are different to the point of not being intelligible to speakers of other dialects, have not fared so well with sinologists in general since Du Ponceau's time. However, John De Francis writes:

As to the first point that the Chinese system of writing is phonetic, this is an extremely intriguing idea which though not entirely true has, to my mind, enough truth in it that I have for some years been dabbling with the thought of trying to do something more with the Chinese script as a crudely phonetic system. I remember reading a number of years ago an interesting article analysing the errors made by the copyists in a particular text. Many of these errors consisted of substituting for the original character another one of the same sound. Here the copyist was obviously influenced more by the sound than by the meaning of the substitutions. Now that linguistic science has developed beyond the first crude attempts at noting the "phonetic" for the "radical" elements in Chinese characters, it might be well to see what can be done by an approach to the characters that emphasizes the phonetic element. It won't be easy, and it may not get us anywhere, but it is worth a try. At least this much can be said of Du Ponceau's ideas that behind all systems of writing there is the spoken

⁷²Mary Orne Pickering, p. 470.

language of the writers. Insofar as Du Ponceau may have this idea in mind, he may be said to be an early forerunner of the modern school of linguistics. I think one of the most fascinating things in scholarship is to discover how some of our "newest" ideas were thought up long ago by men like Du Ponceau and since forgotten so that they have to be rediscovered.⁷³

Much the same opinion is stated more formally by Edgerton:

This ought to have been a truly epoch-making work. If it was not that, but remained relatively without influence (despite a long and laudatory review by his friend John Pickering . . .), this was due simply to the fact that it was too far ahead of its time. Its thesis was that Chinese writing is not "ideographic" but "logographic" . . . or "lexigraphic." That is, each Chinese character represents not an "idea," and not a "thing" or a feature of the objective world, but simply a syllable, or a monosyllabic word, of the Chinese language. There are still living today many Sinologists who cherish the traditional delusion that the signs represent abstract "ideas." Indeed it is only in very recent years that any considerable number of Sinologists have caught up with Du Ponceau. If he had had more direct knowledge of Chinese, his genius might have gone farther and seen the baselessness of the "monosyllabic myth" itself. He did see that Chinese has polysyllabic words, commonly called "compounds." It was doubtless only imperfect knowledge which prevented him from seeing the converse, namely, that many Chinese syllables, though represented, as all syllables are, by special separate characters, are not "words" at all, not "free forms"; they cannot occur meaningfully in actual speech except in combination with other syllables.⁷⁴

Du Ponceau's basic contention that the Chinese symbol

⁷³John De Francis, A letter to the author, dated March 31, 1954.

⁷⁴Edgerton, pp. 28-29. For a discussion of the "monosyllabic myth," see John De Francis, Nationalism and Language Reform in China (Princeton: Princeton University Press, 1950), pp. 147-165.

stands for a word, not an idea, and that the spoken word is the foundation of a language, receives support from Leonard Bloomfield:

Apparently, words are the linguistic units that are first symbolized in writing. Systems of writing which use a symbol for each word of the spoken utterance, are known by the misleading name of ideographic writing. The important thing about writing is precisely this, that the characters represent not features of the practical world ("ideas"), but features of the writers' language; a better name, accordingly, would be word-writing or logographic writing.⁷⁵

Pickering and Du Ponceau: A Summary

The Dissertation on the Nature and Character of Chinese Writing was Du Ponceau's last work of any consequence. By 1841, Mary Orne Pickering notes (p. 477), the Philadelphian was employing an amanuensis and had become somewhat enfeebled. The long friendship and correspondence between Pickering and Du Ponceau was terminated in 1844. On April 1st of that year, Du Ponceau died. In a sense, however, he continued the correspondence for a small space beyond the grave. In his will, he remembers his old friend as follows:

I give and bequeath to my much-valued friend John Pickering, Esq., of Boston, the printed copy of an ancient manuscript of Virgil which was presented to me by the Count de Survilliers. I beg he will accept this trifle as a token of my sincere and constant friendship. I give him also my "Bulletins de la Société de Géographie."⁷⁶

⁷⁵Leonard Bloomfield, Language (New York: Henry Holt and Company, 1933), p. 285.

⁷⁶Mary Orne Pickering, p. 498.

On May 6, 1846, Pickering died, having survived his friend by barely two years. These last two years of his life saw little work of a literary or linguistic nature. His daughter writes (p. 506):

Very few letters of literary character are to be found in my father's "General Correspondence" for the year 1845. The death of his friend Mr. Du Ponceau, his faithful correspondent, had left no one in his place; and the pressing claims of daily professional business, with his official duties as President of the American Academy and of the Oriental Society, could give him no opportunity for cultivating any correspondence which was not obligatory. . . .

In this year, however, he did prepare for publication his Memoir on the Language and Inhabitants of Lord North's Island.

The individual contributions of Pickering and Du Ponceau to the allied fields of linguistics, philology, and phonology are noteworthy and assure each of these scholars a secure place in the history of the development of American arts and sciences. Mathews writes:

Shortly after his death John Pickering was referred to as the "most distinguished philologist to which the western continent has given birth." An examination of his life and achievements leaves one with the impression that this praise accorded him was deserved.⁷⁷

Charles Sumner, in his eulogy of Pickering, characterizes him as a scholar and then defines the term: "By scholar, I mean a cultivator of liberal studies, a student of knowledge in its larger sense."⁷⁸ Later, in a more personal

⁷⁷Mathews, op. cit., p. 64.

⁷⁸Sumner, op. cit., p. 7.

vein, he adds:

In speaking of Pickering, I place in the front his modesty and his learning, the two attributes by which he will always be remembered. I might enlarge on his sweetness of temper, his simplicity of life, his kindness to the young, his sympathy with studies of all kinds, his sensibility to beauty, his conscientious character, his passionless mind.
 . . .⁷⁹

Edgerton writes of Du Ponceau as "at least the equal of Pickering . . ." and goes on to say ". . . he had an exceptional native intelligence, and scientific curiosity, wide learning for his time, and above all, extraordinary common sense."⁸⁰

The fervency of Du Ponceau's devotion to his adopted country has been previously mentioned. In the services of this country, he labored much and long; for Du Ponceau considered whatever honor he gained as belonging also to the nation in which he lived the major part of his long and happy life. Whitehead writes:

It was always a great satisfaction to Du Ponceau that his adopted country had seen fit to honor him so well and so often. Almost as soon as he arrived in this country, he considered himself not French but American, and to the end of his life he was jealous for the cultural advancement of the United States. . . .⁸¹

Pilling, quoting Appleton's Cyclopaedia of American Biography, date not given, says of Du Ponceau: "He was the first to draw the attention of scholars to the philosophical and

⁷⁹Ibid., p. 8.

⁸⁰Edgerton, p. 28.

⁸¹Whitehead, op. cit., April 1939, p. 192.

ethnological labors of early Catholic missionaries in this country."⁸²

Yet, with all their individual accomplishments, it is impossible not to consider the joint projects of these two men and their writings and researches indirectly or directly influenced by each other. The major works of each coincided, with the exception of Du Ponceau's English Phonology and Pickering's Vocabulary, with the period beginning with their friendship and ending with Du Ponceau's death. Principally, the most enduring of these labors were concerned with the languages of the North American Indians. It is with these labors, and the works of others in this field, that the following chapter deals. Here, it may be said, if a generalization of the accomplishments of the two men is needed, that Pickering was the more orthodox linguist of the two and the classical scholar, and that Du Ponceau was the necessary agent to turn Pickering's mind from the relatively arid fields of classical scholarship and into the more fertile areas of linguistic research; and that Pickering's more careful formulation, as exemplified especially in his Uniform Orthography, was to give permanence to Du Ponceau's somewhat tentative and fumbling theorizing, as exemplified in his English Phonology.

⁸²Pilling, Bibliography of the Algonquian Language, p. 121.

CHAPTER III

THE REDISCOVERY OF THE INDIAN LANGUAGES

In a sense, it is inaccurate to speak of the rediscovery of the Indian languages, for, since the time of John Eliot, the missionaries had been investigating these languages. Their objective was, from their standpoint, eminently practical: the more they knew about the languages of the Indians, the more successfully they could convert the heathen to Christianity. This activity has continued down through the present day. The activities of the American Bible Society are too well known to merit extensive comment in these pages. However, in a sense, it is accurate to speak of such a rediscovery. With the development of linguistics into a comparative science, in the early nineteenth century, the broadening interests of linguists led them naturally to a consideration of the fascinating complexity and diversity of the languages of the New World. In this sense, the languages of the North American Indians, discovered by the early settler, may be said to have been rediscovered by the nineteenth century linguists and philologists.

The literature of this rediscovery may be arbitrarily divided into four classes: (1) there are the books and articles which are basically reprints of the works of earlier researchers in this field, the missionaries from Eliot to

Heckewelder; (2) there are the more philosophical and theoretical contributions, based on the early works, on current research, and on original thought and research, the products of skilled linguists and philologists; (3) there are the word-lists, vocabularies, and occasional linguistic comments of a miscellany of writers, travelers, explorers, comments perhaps of little value, each one taken by itself, but valuable as forming a part of a developing whole; and finally (4) there is an attempt at a comprehensive view, a summation of the North American Indian languages.

Pickering and Du Ponceau

Two names reoccur in this chapter which also occur prominently in the preceding chapter, the names of John Pickering and Peter S. Du Ponceau. Although in modern works on Indian languages these names are rarely found, except in such bibliographies as Pilling's, and in occasional historically-slanted articles, they are of undoubted importance. The study of North American Indian languages owes much to Pickering and Du Ponceau. Their enthusiastic appraisals of earlier works and their own no inconsiderable collecting, comparison, and theorizing did much, one cannot but believe, to further the field of linguistic study which was later to be honored by the endeavors of Albert Gallatin, then Franz Boas, and which more recently has attracted the talents of Sapir, Pike, Swadeesh, Trager, Hoijer, Voegelin, and a host

host of others.¹ Daniel G. Brinton, writing in 1890, evaluates the work of Du Ponceau in these words:

Peter Stephen Duponceau, at one time President of the American Philosophical Society, was the first to assert that there was a prevailing unity of grammatical schemes in American tongues. His first published utterance was in 1819, when he distinguished, though not with desirable lucidity, between the two varieties of synthetic constructions, the one (incorporation) applicable to verbal forms of expression, the other (polysynthesis) to nominal expressions.
 . . .²

A more recent writer comments on Du Ponceau's original works and translations and adds: "One of Du Ponceau's merits was the stimulus and inspiration which he gave to correspondents all over the world."³ The utterance to which Brinton refers is the "Report on the General Character and Forms of the Languages of the American Indian." Reference is made to this "Report" in the following pages. The work of Pickering was destined to endure longest in its influence on the shaping of the orthography (and of the sounds) of a non-American language, the aboriginal language of the Hawaiian Islands. This will also be referred to later in this chapter.

¹See especially the International Journal of American Linguistics.

²Daniel G. Brinton, Essays of an Americanist (Philadelphia: Porter and Coates, 1890), pp. 351-352.

³Franklin Edgerton, "Notes on Early American Work in Linguistics," Proceedings of the American Philosophical Society, Vol. 87 (Philadelphia: The American Philosophical Society, 1944), pp. 25-34, see p. 31.

Du Ponceau's "Report" and Its Effect
on Pickering

Pickering's early interest in Indian languages was suddenly crystalized early in 1819, by this report of Du Ponceau's, made in Philadelphia to the Historical Committee of the American Philosophical Society.⁴ The "Report" was in the nature of a progress report and was made two years after Du Ponceau had begun a correspondence with John Heckewelder at the Society's direction. It deals chiefly with the nature and extent of his investigations. It consists of generalizations with little specific linguistic data and almost no phonological data. Du Ponceau compares Indian languages with each other and with the languages of the Old World, taking what he calls (p. 49) "a bird's-eye view of the whole." He details his sources, which reached from one end of the western hemisphere to the other, and drew also from the works of European scholars. He reaches the following conclusions (pp. 53-54) and proceeds to support them by examples and comparisons:

1. That the American languages in general are

⁴Peter S. Du Ponceau, "Report on the General Character and Forms of the Languages of the American Indians," Transactions of the American Philosophical Society, Vol. I (Philadelphia: Abraham Small, 1819), pp. xvii-xlvi. This was reprinted verbatim as Chapter V (pp. 48-82) of James Buchanan's Sketches of the History, Manners, and Customs of the North American Indians with a Plan for Their Melioration (New York: William Borradaile, 1824). Page references herein will be made to the latter publication, since the former is out of print and virtually unobtainable.

rich in words and in grammatical forms, and that in their complicated construction, the greatest order, method, and regularity prevailed.

2. That these complicated forms, which I call polysynthetic,⁷ appear to exist in all those languages, from Greenland to Cape Horn.

3. That these forms appear to differ essentially from those of the ancient and modern languages of the other hemisphere.

Du Ponceau, it will be remembered, had sent Pickering copies of this report, writing also: "I should be very happy if I could draw your attention to this interesting subject, which your talents are so calculated to elucidate."⁶ Pickering expressed his interest in a replying letter, expressing also regret that he does not have time at the moment to pursue the subject. He adds:

. . . I do not, however, despair of finding a leisure hour now and then for just commencing my study of Indian; and as a preliminary, allow me to ask what orthography you adopt in writing Indian words. I have thought that, as it is very desirable to have the aid of the learned in Europe in making the comparisons of the American dialects with the languages of the eastern continent, it would be best, practically speaking, for us to adopt such an orthography as the nations on the continent of Europe would generally employ, because this would materially lessen the labor of making such comparisons. And, indeed, among ourselves, as we must derive much of our information of the American languages from Spanish, German, and French missionaries and other foreigners, it would much facilitate our inquiries to use substantially what we should call a foreign orthography. . . .⁷

⁵Edgerton remarks (p. 29), ". . . it seems worth while to note one permanent contribution to linguistic terminology which goes back to Du Ponceau. He invented the term polysynthetic to described American Indian languages. . . ."

⁶Mary Orne Pickering, Life of John Pickering (Boston: University Press, 1887), p. 281.

⁷Ibid., pp. 281-282.

Pickering then goes on, in the same letter, to ask if Du Ponceau has examined Eliot's Indian Bible and Roger Williams' "Vocabulary of the Naragansett language." He speaks of beginning his study of Indian languages and writes: "I am now engaged in reducing Williams' Vocabulary of the Naragansett language into alphabetical order, following his orthography. . . ." Pickering had also unexpectedly just come into possession of a manuscript dictionary of the Norridge-wock dialect, composed by a Jesuit missionary, Father Rasle, in French and Indian, and comments on this at some length. This dialect, he writes Du Ponceau, ". . . is what you term polysynthetic."⁸ Pickering's work on Williams'

⁸Thomas A. Kirby notes, John Pickering and Peter S. Duponceau, A Selection of Their Correspondence (unpublished manuscript), p. 47a, that the word "polysynthetic" was coined by Du Ponceau to apply to the languages spoken by the North American Indians. He says that it first appeared in print in 1819, when Du Ponceau's Report was published. However, as Kirby points out, Du Ponceau had used the term earlier in his correspondence with Heckewelder. (See Edgerton's comment, fn., p. 150.)

Du Ponceau defines the word in the Report (p. xxvii): "The manner in which words are compounded in that particular mode of speech, the great number and variety of ideas which it has the power of expressing in one single word; particularly by means of the verbs; all these stamp its character for abundance, strength, and comprehensiveness of expression, in such a manner, that those accidents must be considered as included in the general descriptive term polysynthetic."

Kirby points out (loc. cit.) that the term is "linked with syntactic" (Report, p. xxx): "I have explained elsewhere what I mean by a polysynthetic or syntactic construction of language."

Bloomfield, in discussing the traditional terminology, Language (New York: Henry Holt and Company, 1933), pp. 207-208, says in part: ". . . polysynthetic languages expressed semantically important elements, such as verbal goals, by means of bound forms, as does Eskimo inflectional languages, showed a merging of semantically distinct features either in a single bound form or in closely united bound forms. . . ."

vocabulary apparently never reached print, but his research on Father Rasle's dictionary was published in 1833.

Du Ponceau made prompt answer to the question of orthography for Indian languages. In a letter dated April 10, 1819, he advises Pickering that for "mere Copying" he would adopt the orthography of the original, no matter what it was. "My reason is that in altering the original mode of Spelling, we might unwillingly commit many mistakes. The English orthography, particularly, is extremely ambiguous, & there would be danger in varying it. . . ." He continues:

In writing Indian words de novo, I mean, from the mouth of an Indian, I would use in preference the German vowels a e i o u, aw, ay, ee, o, oo-- This I would do to avoid the English diphthongs, which are abominable. As to the accents, I would use two, according to the quantity-- To make you understand what I mean I shall use English words by way of Example. In gracious, where the accented Syllable is long I would accent thus gràcious, in better, where it is short, thus, bétter. Thus the accent & quantity would be at once noted-- The short unaccented syllables require no mark-- A long Syllable not accented, if it should occasionally occur might be marked with the usual sign of length (-- thus able. As to the Consonants the g should always be hard, I would retain sh, better than the German ach, or the French ch. The guttural sound I would express like the Spanish by X, giving notice of it. X itself, I would express by ks. I would disoand [sic] g, & use kwa, kwe, kwi for qua, que, qui, for fear of mistakes, or kua, kue, kui, which would be as good. My plan would be to introduce as few alterations as possible, & above all no more characters. Everything which is not absolutely & indispensable necessary to Convey the idea of the Sound should be avoided. I think our 26 letters with the above trifling variations may serve the purpose.⁹

Pickering commenced inquiries in the field of Indian

⁹Kirby, pp. 29-30. The word "disoand," after which Kirby has "[sic]" may be either "discard" or "disown."

languages at the same time that he was still occupied with a previously begun translation of Schrevelius' Greek Lexicon. He was also, of course, at the same time, pursuing his profession. Nevertheless, he found time to write an article for the North American Review, according to his daughter,¹⁰ on Du Ponceau's "Report to the Philosophical Society on the Subject of Indian Languages." This review¹¹ was concerned not only with Du Ponceau's report on his progress in the investigation of the Indian languages, but also with the correspondence between Du Ponceau and Heckewelder, as published by the American Philosophical Society. The review is unsigned, but even without the testimony of Mary Orne Pickering, it is obviously from the pen of John Pickering, as the writer concludes the article with a plea for a uniform orthography for Indian languages and outlines briefly the vowel and consonant system which was later to be given in detail in Pickering's Essay on a Uniform Orthography for the Indian Languages of North America. The review, as might be expected, is highly favorable and lauds Du Ponceau.

Du Ponceau in Relation to Zeisberger
and Heckewelder

Du Ponceau's interest in Indian languages had antedated

¹⁰Ibid., p. 283.

¹¹Du Ponceau and Heckewelder on the Languages of the American Indians," North American Review, June 1819, pp. 179-187.

his friend's by some years. His first important piece of research in this field was presented to the American Philosophical Society in 1816 and was published in 1830. This was a translation of David Zeisberger's Grammar of the Delaware Indians, with and introduction and various notes by Du Ponceau.¹² Since the 1830 publication contains material which was not included in the original report to the Society, Du Ponceau's observations will be considered in later pages of this study, in what seem a more appropriate chronological perspective. The correspondence between Du Ponceau and Heckewelder, referred to in the review by Pickering previously cited (see p. 153), began in 1816. Also concerned in this correspondence was Dr. Caspar Wistar, at that time President of the Society. The correspondence was initiated in consequence of Du Ponceau's undertaking the translation of Zeisberger's Grammar. Heckewelder, besides being, as had been Zeisberger, a minister of the Moravian faith, was at one time assistant to Zeisberger. While Du Ponceau was engaged in translating the Zeisberger Grammar of the Delaware language, he was, according to William C. Reichel, writing in 1876, ". . . struck with the beauty of the grammatical forms of the Lenape idiom, which led him to ask

¹²David Zeisberger, "A Grammar of the Language of the Lenni Lenape, or Delaware Indians," Translated by P. S. Du Ponceau, Transactions of the American Philosophical Society, Vol. III---New Series (Philadelphia: James Kay, Jun. & Co., 1830), pp. 65-251.

through Dr. Wistar some questions of Mr. Heckewelder."¹³

Du Ponceau's questions were mostly of a purely phonological nature. He had read Campanius' translation of "Luther's Little Catechism" into the Delaware (see pp. 40-45) and had noticed certain differences in notation between Zeisberger and the Swedish missionary. On June 10, 1816, he writes to Heckewelder:

. . . I am particularly struck with some words that are written with an R by the Swede and with L by the German author. In all Zeisberger's Grammar I have not been able to find the letter R in one single Delaware word, neither is it to be found in any of the words of his Delaware spelling book. No doubt you can inform me of the reason for this difference.¹⁴

Here, apparently for the first time, Du Ponceau became aware of the phonetic characteristic which has caused the Algonquian dialects to be classified n-, l-, and r-dialects.

An obvious problem to Du Ponceau in his translation of Zeisberger's work, was the sound values of the letters which the German-born missionary used. In a letter written three days after the one quoted above, he asks (pp. 369-370) if the double consonants which Zeisberger uses are pronounced

¹³Rev. John Heckewelder, History, Manners, and Customs of the Indian Nations Who Once Inhabited Pennsylvania and the Neighboring States, revised edition (Philadelphia: Publication Fund of the Historical Society of Pennsylvania, 1876. Vol. XII of the Memoirs of the Historical Society of Pennsylvania), p. 352. This volume is called the "New and Revised Edition with an Introduction and Notes by the Rev. William C. Reichel, of Bethlehem, Pa." Part II of this book is entitled "A Correspondence between The Rev. John Heckewelder of Bethlehem and Peter S. Duponceau, Esq. Corresponding Secretary of the Historical and Literary Committee of the American Philosophical Society, Respecting the Languages of the American Indians."

¹⁴Ibid., p. 368.

as in Italian. He inquires about the difference in pronunciation between ke and que. He writes also: "I find some words written sometimes with one i and sometimes with two; thus elsia, and elsiia. Are the two i's separately articulated, or do they sound only as one?" He asks also about the seeming illogical use of k and g in obviously related words, about the significance of double aa, and about the difference in sound of ch and hh. Heckewelder proved a willing and intelligent informant. He answers these questions in a letter dated June 24, 1816 (pp. 375-376). The double consonant, he informs Du Ponceau, indicates a short vowel. Que is pronounced kue or kwe. "Sometimes the letters c or g, are used in writing the Delaware language instead of k, to shew that this consonant is not pronounced too hard; but in general c and g have been used as substitutes for k, because our printers had not a sufficient supply of types for that character." In words written with ij, he says, both letters are to be pronounced, with the j having the value of "English y before a vowel." Heckewelder states that for this reason he often uses y instead of the j employed by Zeisberger and most German missionaries. Ch has the value of ch in German and hh merely indicated a preceding short vowel.

Du Ponceau writes again, July 13, 1816 (p. 380), asking: "Is the w in the Delaware, as your missionaries write it, to be pronounced like the same letter in German, or like the English w and the French ou?" He adds, in reference to the lack of [f] in Delaware, that if the w is pronounced [v],

he is surprised that the Delaware cannot pronounce [f].

Heckewelder answers, July 24 (p. 387):

There are in the Delaware language no such consonants as the German w, or English v, f, or r. Where w in this language is placed before a vowel, it sounds the same as in English; before a consonant, it represent a whistled sound of which I cannot well give you an idea on paper, but which I shall easily make you understand by uttering it before you when we meet.

This "whistled w" intrigued Du Ponceau and was subsequently mentioned by him frequently as an example of a non-European sound.

The influence on Du Ponceau of this early study of Zeisberger and the ensuing correspondence with Heckewelder was profound. First, it led him at the outset into the study of what a later writer refers to as "a typical Amerindian language."¹⁵ Second, it early directed his attention to phonological differences not only between the various Indian dialects, but to essential phonological differences between American and European languages. Third, he became aware of structural differences between Indian and European languages. Finally, it exposed him to the views of Heckewelder on the American Indian in general and the Delaware Indian in particular and resulted in Du Ponceau's sharing somewhat these views, which critics, later and contemporary,

¹⁵Nils G. Holmer, John Campanius' Lutheran Catechism in the Delaware Language, Essays and Studies on American Language and Literature, No. III (Upsala: The American Institute in the University of Upsala, 1946), p. 18.

implied were romantic rather than realistic.

The importance of this particular research and literary work to the development of American philology should not be overlooked. It was the first in a long series of works by different authors, utilizing the early writings on Indian languages and adding to a growing body of theory and knowledge. Its approach, though chiefly descriptive and historical, was leading toward a comparative view of Indian languages. Pickering, writing a short time later, speaks of the opening up of the field of Indian languages and notes as "the first fruits of these inquiries" the works of Du Ponceau and Heckewelder.¹⁶

Pickering's Uniform Orthography

During the years 1819 and 1820, Pickering was at work in the field of Indian languages. His enterprise became almost an obsession with him--the need for and the creation of a uniform orthography for the recording of Indian languages. Du Ponceau's problems with Zeisberger's orthography, with Heckewelder's comments, and with the earlier writing of Campanius well demonstrated this need. Moreover, both Pickering and Du Ponceau had had occasion to examine the works of early New England missionaries. In addition, there existed miscellaneous collections of Indian words and more or

¹⁶Pickering, "On the adoption of a Uniform Orthography for the Indian Languages of North America," Memoirs of the American Academy of Arts and Sciences, Vol. IV (Cambridge: Hilliard and Metcalf, 1821), pp. 319-360, see pp. 322-323.

less comparative vocabularies, in which, the phonetic values of the orthographic symbols were likely to vary from compiler to compiler.

In the spring of 1820, Pickering read a paper before the American Academy of Arts and Sciences. Subsequently he wrote Du Ponceau:

I take an opportunity of sending to you by my father a copy of my Paper on the Orthography of the Indian Languages. It is, as you know, only an application of the general principles of your excellent Essay on English Phonology, and will stand in need of much indulgence on your part. I submit it, however, without fear to one of your learning and candor, and beg you to be assured that nothing will confer a greater obligation upon me than your remarks upon it.¹⁷

Du Ponceau replied with warm admiration and concludes his letter of July 7 in this fashion:

. . . I mean to propose to you by and by to have your Alphabet, with few explanations, printed singly, and distributed among missionary societies, etc. This will be the way to make it useful and bring it into practice. I wish I had you here for an hour only; armed with my books, I would throw volumes at your head, and we would swim together in a sea of philology. . . .¹⁸

This work of Pickering's was the Memoir on a Uniform Orthography, printed the following year as a memoir of the American Academy of Arts and Sciences (previously cited, see p. 158).

Pickering's approach to his problem, that of devising a uniform orthography for North American Indian languages,

¹⁷Mary Orne Pickering, p. 286.

¹⁸Ibid., p. 287.

was derived essentially, as he acknowledges, from the latter's English Phonology. In establishing his methodology, Pickering says (p. 320), ". . . we have only to ascertain, in the first place, every elementary sound, and then arrange the letters, by which we may choose to represent those sounds, in the order of our own alphabet." He attempts, then, not to devise a new or reformed alphabet, with new or added symbols, but to use the already established alphabet, with definitely fixed phonetic values, or at least phonemic values, for the orthographic symbols.

The conviction that such a uniform orthography was needed arose from Pickering's beginning research in Indian languages, and, no doubt, was reinforced through his correspondence with Du Ponceau. With respect to his own early research, Pickering writes (pp. 323-324):

At the very commencement of my inquiries, however, I found my progress impeded by a capricious and ever varying orthography of the Indian languages, not only among the writers of different nations, but even among those of the same country. I have, therefore, while examining words in one Indian dialect with a view to comparing them with those of another, been obliged to employ much time in first settling the spelling of a written word, in order to ascertain the sound of the spoken word; when I ought to have found nothing more to be necessary than to make the comparison, which I happened to have in view, between words whose sounds should have presented themselves upon the first inspection of their written characters. But with the present irregular mode of writing Indian words, unless a reader is conversant with the several languages of the authors, whose remarks upon the Indian dialects may fall within his observations (which remarks too are often rendered still further unintelligible by being read in a translation) he will be very likely to imagine, that the words of a single dialect, as he sees them written by a German, a Frenchman, or an Englishman, belong to languages as widely different as those of his several authors. . . .

Such perplexities led Pickering to consider "the expediency of adopting a uniform orthography for the Indian, as well as other languages, which have no written characters," as Pickering writes (p. 325). In the immediately following pages, he points out the confusion of English orthography, especially in representing vowel sounds. In the languages of continental Europe, this is not true, he states, with a few exceptions which are not basically significant. Thus, he writes (p. 329):

. . . I have always thought, therefore, that it would be best to adopt as the basis of our Indian orthography, what we call the foreign sounds of all the vowels; that is, the sounds which are usually given to them by those European nations, with whom we have much intercourse by books or otherwise, and who, like ourselves, use the Roman alphabet in their own languages. I speak with these limitations, because my object is merely practical; and, for all practical purposes, it will for some time to come be best to confine our views to the family of nations I have here mentioned, and to adopt an orthography, which, though it may not be philosophically exact, shall be attended with the least embarrassment to them and ourselves in the common use of it. We can hereafter either modify that orthography, or adopt a new one, as our extended intercourse with other families of nations may be found to require.

Pickering's linguistic orientation, it must be remembered, was, in a large sense, toward Europe. He had been attracted to the study of American languages after he had already become established as a classical scholar. His early practical linguistic achievements were in European languages. His early scholarly contacts were with European scholars. He had lived abroad, on the continent and in England. He had written a vocabulary of Americanisms in which he looked to England for standards of pronunciation and usage. It was

natural, therefore, aside from reasons of phonetic logic, that he should consider as a basis for his proposed orthography "the foreign sounds of all the vowels." In a letter to Hiram Bingham, dated October 19, 1819, Pickering, who was even then at work on this orthography, writes (pp. 291-292):

As various nations of Europe are engaged in the work of foreign missions, and have already written and will continue to write and publish books, both for the instruction of the heathen and for the information of the learned, it is desirable that some common orthography should be adopted for the unwritten languages. This will enable them to read our Indian books with ease, and will make theirs also easy of access to us. For this reason I have long thought it would be best to adopt as the basis of the orthography what we call the foreign sounds of all the vowels; this should in my judgment be the basis of the proposed orthography. But whatever orthography you do finally adopt, I think you ought not to print any of your books without a key or table of the sounds of the letters, so that the learned of Europe may be able to get some idea of the language, and be able to co-operate with the greatest effect. I hope your duties will permit you occasionally to compare the languages of your islanders with those of the others in the South Sea, and also with those of the Asiatic and American coasts,--an inquiry which may ultimately be of great utility.

It should be noted in connection with the foregoing that this letter was written shortly before Bingham departed for the Sandwich Islands. Pickering here is giving advice as to the orthography to use for the aboriginal languages of those islands. This is considered in more detail in subsequent pages.

The Uniform Orthography: The Vowel Sounds

After establishing his criterion for representation of vowels, Pickering then goes on (p. 329) to give the pronunciation of the vowels.

<u>a</u>	as in <u>father</u>
<u>e</u>	as in <u>there</u>
<u>i</u>	as in <u>machine</u> (or like <u>ee</u>)
<u>o</u>	as in <u>note</u>
<u>u</u>	as in <u>rule</u>
<u>y</u>	as in <u>you</u> (or like <u>ee</u>)

The use of there as the key-word for the pronunciation of e would be ambiguous, but for the fact that, since Pickering is thinking of the "foreign" sound, it is obviously [e].

The dual use of y is probably both a carry-over from the habitual viewing of y as both a consonant and a vowel and from Du Ponceau's consideration of the sound of y as both "vocal" and "organic." Pickering's vowel letters and their IPA equivalents are, then:

<u>a</u>	[a]
<u>e</u>	[e]
<u>i</u>	[i]
<u>o</u>	[o]
<u>u</u>	[u]
<u>y</u>	[j] and [i]

With the exception of y, this could hardly be improved on, especially when one considers that the traditional views of quantity, of "long" and "short," make this representation essentially phonemic, rather than phonetic.

Although Pickering considers y as both vowel and consonant, he does not make the mistake of representing [j] by the symbol i. Nor does he fall into the pitfall of orthographic confusion with respect to [w]. Apparently he considers [w] as some kind of [u], but, in his orthography, he keeps the representation simpler than did many of his predecessors, Franklin, for example. Pickering writes (p. 330):

Our letter w may also be advantageously employed, instead of the single u, at the beginning of certain

syllables which we should otherwise write with oo; for, if the combination oo should happen to precede or follow a single o, thus oo-o or o-oo (for wo or ow) it makes a very awkward and inconvenient orthography; and if the oo should precede or follow another combination of the same kind, thus oo-oo (for wu) the inconvenience is still more palpable. Our venerable Eliot, whose memory will ever be revered by scholars as well as by the friends of religion, both in his Indian Grammar and his Translation of the Bible, used a character composed of two o's closely united thus (∞) resembling the figure 8 laid horizontally. This character answers extremely well; but as the simple u or w would always supply its place, and as both of these are familiar to the different nations of Europe, I have thought we might dispense with the character devised by Eliot. . . .

There follows a rather lengthy but inconclusive discussion of diacritical markings (p. 330 ff.) with respect to modifications of the basic vowel sounds and to indicate stress. For the purpose of indicating modifications, Pickering writes,

. . . I should choose, if practicable, to adopt some other marks than the common signs of accent and quantity; because these signs have been so long employed to denote the usual, though vague distinctions of grave, acute, and circumflex accents, and long and short syllables that they would perpetually mislead readers of every nation; besides, it may be found useful to reserve them, to be placed over those syllables which in English we call accented, in order to denote that part of a word, upon which the greatest force, or stress of the voice falls in pronunciation.

In discussing the use of diacritical markings he points out the possible lack of clarity in using the traditional "points" (i. e., as in ẏ, ȳ). "For this reason, therefore, marks of that kind should be used as sparingly as possible," he writes. ". . . If points are employed at all, it would be better to place them perpendicularly over the vowel . . . and not horizontally." He suggests, however, the expedient

of placing numbers under the letters, "as the room above will be wanted for the accents and marks of quantity."

Because of the copious use of nasal vowels in many of the Indian dialects, some provision for the notation of such must be provided in any orthography such as Pickering proposes. Du Ponceau, commenting on nasal sounds, notes that nearly all the dialects of Algonquian have nasal vowels which he compares to the French an and on. These, he notes, are very rarely designated correctly by English writers, and especially by Germans. The Germans write an, on. The English sometimes write, according to Du Ponceau, ang, ong.¹⁹ Pickering recognizes this need when he states (p. 334) that "it seems absolutely necessary to introduce a new character . . ." and points out the possible ambiguity of using a nasal consonant, as in French. He suggests the cedilla to denote the nasal vowel, and credits Du Ponceau with the original idea. In his "Table of the Alphabet" (see Plates VII and VIII, pp. 166 and 167), Pickering so uses the cedilla. There, he describes the nasal vowels "long, as in ang," "long, as in eyng," etc. This is merely an approximate, as indicated by a subsequent note (p. 357):

The description of the Nasals, in the preceding Table, by the syllables ang, eeng, &c. is to be considered merely as a rude approximation to their true sounds. Those persons who are acquainted with the French language will need no description of them.

. . .

He refers those who are not familiar with French "to a class of English words, in which the nasal is followed by the consonants g, or k, or c hard; as in linger, thinking, uncle . . ."

PLATE VII

Indian Languages in North America.

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TABLE OF THE ALPHABET.

- A as in the English words, *far, father*, &c. (But see the *Note on the Vowels*, p. 355.)
 B as in English, French, &c.
 D (*the same*.)
 E as in the English word *there*; and also short *e*, as in *met*, &c.
 F as in English, &c.
 G English *g* hard, as in *game, gone*, &c.
 H an aspiration, as in English, &c.
 I as in *marine, machine*, (or English *ee*); and also short *i* in *him*.
 K as in English.
 L (*the same*.)
 M (*the same*.)
 N (*the same*.)
 O English long *o*, as in *robe*; and also the *o* in *some, among, above*, &c. which is equivalent to the English short *u* in *rub, tun*, &c. (But see the remarks on this letter, p. 357.)
 P as in English, &c.
 R (*the same*.)
 S as in English at the beginning of a word.
 T as in English, &c.
 U English *oo*, both long and short; French *ou*.
 V English *v*. German *w*, Russian *b*, Modern Greek β .
 W as in English; French *ou*.
 Y as in the English words, *yet, you*, &c.
 Z as in English, &c.

NASALS.

- A as in *ang* (sounding the *a* itself, as in *father*.) But for a better description of this and the other nasals, see the *Note on the Nasals*, p. 357.
 E long, as in *eyng* (pronouncing the *ey* as in *they*;) and short, as in the word *ginseng*; Portuguese *em* final. (See *Note on the Nasals*, p. 357.)
 I long, as in *eeeng*; and short as in *ing*; Portuguese *im* final. (See *Note on the Nasals*, p. 357.)
 O long, as in *ovng* (sounding the *ov* as in *own*;) French *on*; Portuguese *om* final. This character will also be used for *o* short *nasalised*, which is very nearly the same with *ong* in *among*, as this latter is equivalent to *ung* in *lung*, &c. See *Walker's Dict. Principles*, No. 165. See also the *Notes on the vowel O, and on the Nasals*, p. 356, 357.
 U as in *oong*; Portuguese *um* final.
 To these should be added a character for the nasal *awng* or *ong* which corresponds to our *o* in *for, nor*, &c. And, as I have proposed (in p. 356,) to denote this vocal sound, when not *nasalised*, by *aw*, so it would be most strictly conformable to my plan, to denote the same vocal sound, when it is *nasalised*, by a_{g} or aw_{g} . But perhaps the letter *a* itself, with the cedilla (a_{g}) may be used without inconvenience for this broad nasal sound, and we may still, in the common vowels, reserve the simple *a* to denote the sound it has in the word *father*, and not the sound of *aw*. For it may be found, that the first nasal sound in this Table is not common in the Indian languages; in which case it would be best to use the simple a_{g} for the broad nasal here mentioned.

PLATE VIII

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Mr. Pickering on the Orthography of the

TABLE OF THE ALPHABET CONTINUED.

DIPHTHONGS.

- AI English *i* in *pine*.
 AU English *ow* in *hour*, *nour*, &c. and *ou* in *our*.
 IU English *u* in *pure*; French *iou*.
 VU to be used at the beginning, as *iu* may be in the middle, of words.

ADDITIONAL CONSONANTS.

- DJ, DSH, OR DZH, English *j* and *dg*, in *judge*; French *dg*.
 DH, as in the English words, *this*, *that*; the *ð* of the Modern Greeks.
 DS, DZ; TS, TZ, English *ts* in the proper name *Betsy*; German and Italian *z*; German *c* before the vowels *e* and *i*; Polish *c* before all the vowels; Russian *Tsi*. These four compounds being nearly alike (as Mr. Du Ponceau justly observes to me) the ear of the writer must direct him which to use, as the respective consonants predominate.
 GH, See *kh* below.
 CZ, OR CS, English *x* in *example*, *exact*.
 HW, English *wh* in *what*, *when*.
 KH, guttural, like the Greek *χ*; Spanish *x*, *g*, and *j*; German *ch*; Dutch *gh*. I have in the preceding paper given the preference to *kh* for the purpose of expressing this guttural sound; but *gh* pronounced as the Irish do in their name *Drogheda*, &c. may be better in certain cases where this guttural partakes more of the flat sound, *g*, than of the sharp one, *k*. It may be observed, that *gh* has been already used in some of the books printed for the use of the Indians.
 KS, English *x* in *maxim*, *exercise*.
 KSH, ——— *xi* in *complexion*; *xu* in *luxury*. The formation of this combination would be obvious; but as the sound is actually often used in the Delaware language, I have thought it best to notice it.
 KW English *qu*.
 LY OR LI, as in the English word *steelyard*; French *l mouillée*, Spanish *ll*, Portuguese *lh*, Italian *gl* before *i*.
 NY OR NI, as in the English proper name *Bunyan*, and the words *onion*, *opinion*, &c.
 TH, in the English word *thin*; Greek *θ*.
 TS }
 TZ } See *ds* above.
 TSH, English *ch*, in *chair*; Spanish *ch* in *much*; Italian *c* before *e* and *i*; German *tsch*; Russian *ч*.
 WR, as in the Delaware language.
 ZH, as *s* in *pleasure*; French and Portuguese *j*; Polish *z*, with a comma over it (*ż*).

Another of Du Ponceau's suggestions appears as a footnote (p. 335) to a discussion of accent and quantity, a suggestion which Pickering terms both "simple and ingenious." Du Ponceau proposes, Pickering writes,

. . . that long accented syllables should be marked with the grave accent, and short accented ones with the acute. "Unaccented syllables," he adds, "need no mark, being generally short." This method would be attended with no difficulty in the application, were it not for the different ideas, which different persons may affix to the terms long and short in this case. We say in English, for example, that i in the word pine is long, but that in pin it is short. This, to an Italian, French, or other foreign scholar, would be an absurdity; because it would be equivalent to saying, that the sound of our word aye and of our letter e (for so they would pronounce i in pine and i in pin) are the long and short of the same vocal sound; when too, as our own grammarians begin to admit, the letter i in the former case is a diphthong, and in the latter, a vowel. . . .

Here is a recognition, rare in early American phonology, that the then customary usage of the terms long and short actually referred to quality rather than quantity. Du Ponceau himself, an acute observer in many instances, nevertheless, uses long and short as if he were indicating quantity when he is actually indicating a difference in vowel quality.

In Pickering's discussion of diphthong in this work (pp. 335-337), he remarks that since such sounds are a combination of vowel sounds there should be little difficulty in representing them orthographically. He suggests ai for the "long i of pine," iu for the "long u in our word pure," with yu "to be used at the beginning of words (thus avoiding the possible ambiguity and confusion of iu), and au "for the diphthong which we denote in English by ou in our, and ow in

now." Again, as in the case of his orthography for vowels, one can hardly quarrel with this. This representation of the diphthongs is apparently an expansion of Pickering's original ideas on the subject, as he writes to Du Ponceau, in a letter dated June 30, 1820:

I must add a supplement upon the diphthongs, for I find much to my surprise by conversing with Mr. Brown (the Cherokee who assisted Mr. Buthrick)²⁰ that in the Cherokee there is the sound of our English i in pine and of u in pure; which ought to be represented by ai and iu. . . . They also have the full broad sound of our aw; which I have thought might well be represented by those two letters, though it is not a diphthong. But perhaps, according to the principles in my essay, it would be better to denote it by an a with a small w over it. . . .²¹
be better to denote it by an a with a small w over it. . . .²¹

A Uniform Orthography: The Consonants

Pickering's orthography for consonant sounds is considered next. For convenience of reference, these are paired with the conventional IPA symbols and such comments as Pickering (pp. 337-352) gives, which are relevant to the sound, or other relevant comments, are also given along with each consonant sound. The IPA representations are in the

²⁰Daniel Sabin Butrick (1789-1851), a missionary among the Cherokees from 1817 to 1847, was author of Antiquities of the Cherokee Indians (Vinita, Oklahoma: 1884) and co-author with David Brown of TSVLVKI SQCLVCLV, A Cherokee Spelling Book (Knoxville: 1819). He was also the author of several manuscript volumes which have remained unpublished. The speller was written in a pre-Sequoyah script developed by the missionaries.

²¹Kirby, pp. 108-109. By "aw" Pickering means [ɔ], which he regards sometimes as a diphthong and sometimes not.

left-hand column and Pickering's symbols (here given in capital letters) along with comments, if any, and page number in Pickering's Uniform Orthography, are in the right-hand column.

<u>IPA</u>	<u>Pickering</u>
[b]	B (p. 337)
[p]	P (p. 344)
[d]	D (p. 337)
[t]	T (p. 346)
[g]	G (p. 339)
[k]	K (p. 341)
[m]	M (p. 343)
[n]	N (p. 344)
[ŋ]	This sound is considered as a component part of certain nasal vowels.
[ɲ]	NY, NI "Ny or ni may be wanted to express the sound of <u>gn</u> in the foreign words <u>bagnio</u> , <u>seignior</u> , and which we hear in our words <u>convenient</u> , <u>minion</u> , <u>whinyard</u> , the proper name <u>Bunyan</u> , &c. . . ." (P. 344.)
[v]	V "The letter V, whenever it shall be wanted, will have the usual power. But probably there will not be much use for it in many of the Indian dialects, for the reason given under the letter F." (P. 348.)
[f]	F "The letter F, whenever it shall be wanted, will have its usual power. But probably there will not be much use for it in many of the Indian dialects; for Mr. Heckewelder observes of the <u>Delaware</u> language, which is the basis of many others, that it has 'no such consonant as the German <u>w</u> , or English <u>v</u> , <u>f</u> , or <u>x</u> .'" (p. 339.)
[ð]	DH ". . . for which our Saxon ancestors had an appropriate character, but for want of which we should be obliged to write . . . <u>dhis</u> , <u>dhat</u> , &c." (P. 338.)

(IPA) (Pickering)

- [ə] TH (p. 338)
- [z] Z "In this case . . . it will be necessary for the Germans and Italians to relinquish their peculiar pronunciation . . ." (P. 349.)
- [s] S (p. 345)
- [ʒ] ZH (p. 349)
- [ʃ] SH Pickering chooses this as being more generally comprehended and less ambiguous than French ch or German sch (pp. 345-346).
- [j] Y ". . . as in you," listed under the vowels.
- [h] H ". . . either when single or in combination . . ." (P. 340.)
- [l] L ". . . whether single or double . . ." (P. 342.)
- [r] R "R may preserve its common sound, which is fundamentally the same in the European languages, though uttered with very different degrees of force, or roughness, by different nations." (P. 345.)
- [dʒ] DJ, DSH, DZH (p. 338)
- [tʃ] TSH ". . . It would be desirable, it is true, to have a character of greater simplicity than these three letters make . . ." However, because of the different pronunciations of ch in various European languages, Pickering chooses this representation (pp. 347-348).
- [dz] DS, DZ "[These] will probably be wanted in some cases, to denote the flat sounds corresponding to ts; which last is very common in the Indian languages (though often corrupted into our ch) and is expressed by the German writers by a simple Z . . ." (P. 338.)
- [ts] TS ". . . This will be much preferable to the German Z, which has the power of ts or tz, but which most nations would pronounce in their own languages as we do

(IPA) (Pickering)

in ours, and would therefore be misled in the pronunciation of Indian words, where this letter occurs. . . ." (P. 347.)

- [tz] TZ "I have here spoken only of ts as a substitute for the German z; but tz may perhaps be required to express a slight modification of this fundamental sound, which may probably be observed in some particular dialects, or in different words of the same dialect. . . ." (P. 347.)
- [w] W This is listed under the vowels.
- [ɹ] HW (p. 340)
- [ç] KH "Kh may be used to denote the sharp guttural, which the Germans express by ch and the Greeks by χ; . . . The combination kh is to be preferred to ch, because the latter would be ambiguous to Europeans in general, as well as to ourselves . . ." (Pp. 341-342.)
- [x] GH "Gh may be used to denote the flat guttural of the Irish, which is the corresponding sound to the sharp guttural, or German ch . . ." (P. 339.)
- [gz] GS, GZ "Gs will be wanted to denote the flat sound of x, in our word example and other words of that form . . ." (P. 339.)
- [ks] KS (p. 342)
- [kf] KSH
- [gʒ] KSH These sounds are described as " . . . xi in complexion; xu in luxury. . . ." (P. 354.)
- [λ] LY, LI ". . . to express the liquid sound of L, as it is called, which is heard in the foreign words seraglio, intaglio, &c. . . ." Pickering admits that this character may not be necessary, as "Dr. Du Ponceau informs me, that he has not yet met with this sound in any of the Indian languages examined by him. . . ." (pp. 342-343).

Thus it will be seen that Pickering does not use these letters: c, j, g, and x. All of these he rejects as either unnecessary or confusing.

It will be noted that Pickering speaks of the "flat sound" or the "sharp sound" of this or that letter, as "the flat sound of th." The concepts of voiced and voiceless sounds was not yet fully held, but the inexactness of current terminology must have irritated the precise legal mind of Joh Pickering, for in a footnote (p. 338) to th he deals with the problem, albeit inconclusively.

The flat sound of th. Nothing can be more unsettled and imperfect than our technical language in Grammar and Rhetoric; and this circumstance has much retarded the progress of accurate investigation in those two branches of our studies. So far as respects sounds, we cannot do better than to borrow terms from Music, which is the Science of sounds; and I have accordingly used the terms flat and sharp (or grave and acute) which I believe were first employed systematically in Walker's Pronouncing Dictionary, to designate the two classes of consonants often called mutes and semi-mutes, as b, d, v, and p, t, f, &c. Mr. Du Ponceau observes, that this distinction may be as good as any other; but he suggests, whether that of inspires and exspirates would not be preferable; applying the former of these terms to the flat consonants, and the latter to the sharp ones; so that B will be called an inspire, and P, an exspirate, &c. He is of opinion that "in pronouncing these two classes of letters, the organ in the one case expels the breath, and in the other draws it in . . . The expiration, in t, th, f, p, &c. (he remarks) is clearly and strongly to be perceived; the inspiration in their correlatives, perhaps not quite so much." To me it seems, that when you say thunder, you push the air out, when you say that, you draw or keep the air in as much as is possible in uttering a consonant.

The sound of w before a consonant, the "whistle w," of the Delaware idiom, which so intrigued Du Ponceau, is mentioned in this work. Du Ponceau had, by this time, more

carefully analyzed the sound and communicated his analysis to Pickering. The latter quotes his friend in a footnote (pp. 348-349):

I have analysed the whistling W of the Delawares. It is nothing more than our oo consonant, w or wh, in well, what. The Delawares pronounce it immediately before a consonant without an intervening vowel; which habit enables them to do, while we cannot, unless practice has made it familiar to us; as it has to me. Take the word wet, you pronounce it easily; transpose the vowel and write it wte, a Delaware will pronounce it with the same ease; when we cannot. . . .

To the body of this essay, Pickering appends (pp. 353-354) his "Table of the Alphabet." In this "Table" (see Plates VII and VIII, pp. 166 and 167), which follows a brief discussion, Pickering has not, he says (p. 350), arranged the characters "according to their organic formation; because, useful and necessary as this would be in a philosophical investigation of the affinities of those sounds, it would not be attended with any important advantage in an alphabet, like the present, designed merely for practical use." He emphasizes the practical intentions in adding (pp. 350-351) that he had no intention of creating a "universal alphabet on strict philosophical principles for the use of the learned, but merely a practical one, to be applied to the Indian languages of North America. . . ." Thus, he freely admits that he has "intentionally omitted many sounds, which occur in the languages of Europe and other parts of the world, and numerous modifications of greater or less delicacy in some of the fundamental sounds which have come under my notice." In this admission of the omission of

"numerous modifications" there is an indication of the basically phonemic approach of Pickering to the problem of devising a workable alphabet. He warns, too, against overburdening the system, rather, he says, one should apply it intelligently. Unlike Du Ponceau, in his English Phonology, Pickering gives no names to the letters, thinking such unnecessary. However, he suggests (p. 352) that perhaps g, h, w, and y might be called by names "that would more immediately suggest to the learner the powers of those letters . . ." He suggests ghee, ha or hau, wee, and ye or ya. He adds that some designation might be given to sh, tsh, and other such combinations, but suggests none.

His "Table of the Alphabet," in addition to the symbols and sounds previously mentioned, has these additional symbols and sounds: five nasalized vowels, a, e, i, o, and u (which he marks with a cedilla); the consonant cluster KSH [kʃ]; KW, equivalent to [kw]; and WT, apparently [wt] or [ʌt], "as in the Delaware language."

Pickering's Phonemic Approach

The essentially phonemic approach of Pickering is well shown in his "Notes on the Vowels" (pp. 355-357). The following painstaking analysis in Pickering's own words will illustrate this.

In considering the several letters by which the vowel sounds are represented, both in our own and other languages, it will be perceived, that each of them may be taken as representing, not a single sound, but a series of sounds, which series will be more or less extensive according to the genius of

different languages; and it will be further observed, that each series gradually runs into the adjoining series (if we may so speak) by such slight and delicate modifications, that it is a matter of no small difficulty, in many cases, to decide in what part of any one series we should drop the vowel character with which we begin, and take another to continue the sounds of the next series; in other words, it is not easy to determine, at what point one series ends and another begins. For example; if we take the letter a, we may assume the sound which it has in the word father, as the middle point of a series, the whole of which, (beginning with the broad a in fall and ending with the narrow or slender a in fate) we denote in English by this one character, thus:

fall--fAr--fat--fate-- and these are all the sounds in this series, which philologists designate in our own language by this one letter. But if we extend our view to other languages, we shall find various intermediate sounds between the two extremes of this same series; for example, between the sounds of our a in fall and in far, we find in the French language, the â in pâle, mâle, &c. which can only be described, on paper, as a sound between our two, and which is seldom attended to by foreigners in speaking French. Now, if we should minutely examine a number of languages, and should endeavour to arrange accurately in one progression all the vowel sound belonging to this series, we should doubtless discover in those languages many other slight modifications intervening between the different members of our English series. As, however, we cannot accustom our ears familiarly to distinguish, nor our organs of speech to utter with precision, all these slightly differing sounds, so we need no distinctive character to represent them to the eye, but it will be sufficient in practice to have characters for the principal sounds. . . .

If we now recur for a moment to the series above denoted by A, we find on one side of it a series which we denote by the letter O, and on the other side, a series which we denote by the letter E; in the former we begin with the sound of o in morn, which might be written with au or aw (or with a alone, if we had been accustomed to write this word with that letter, as we do the word war) and then we proceed to the sound which it has in more, till we arrive at that which it has in move; which point may be considered, practically speaking, as forming the end of one series and the beginning of another, which is represented by the letter U; and these two contiguous extremes are sometimes represented by o and sometimes by u, that is, our oo. If we now take the other side of the series, represented as above by A, and set out from the sound which that letter has in

the word fate, we enter upon a series, of which the letter E may be called the representative, beginning with its sound in the word met, which is the short sound of a in fate; and this series, proceeding imperceptibly through various gradations, at length vanishes in the simple unequivocal sound of ee, which foreign nations denote by the third vowel, i. The following table will perhaps make these remarks more intelligible:

Series of the letter A:

	fAr		
<u>Series of O:</u>	fAll	fAt	
	mOrn	fAte	<u>Series of E:</u>
	mOrn	thEre	
	mOre	thEre	
mOve			thEse
rUle, &c.			marine,
			&c.

Pickering then points out the difficulty in writing Indian languages in deciding at what point, or at what distance from the "middle point," the orthographic representation of the sound should be changed. A case in point is the sound [o]. Pickering writes (p. 356): ". . . we feel a repugnance (arising from old habits in our own language) to denoting that sound by the single vowel, and are rather inclined to express it by au or aw." It is the latter spelling that Pickering chooses, despite the fact that Du Ponceau had advised using the single letter a.

Although Pickering clearly recognizes in this essay the difference between quantity and quality of vowel sounds, he follows Du Ponceau's lead in representing both [o] and [A] by the same symbol, the letter o. He justifies this (p. 356) not only by habitual English spelling, which uses o for both sounds, but also by phonetic comparison. He writes that "A careful comparison . . . of these two vowel sounds, under

various combinations of the consonants, will show that they do not differ so materially as our various modes of representing them might lead us to suppose; but on the contrary, that their principal difference is in their length or quantity; while in respect to quality, the difference between them . . . may be almost said to be less than any assignable one, and therefore they may well enough be denoted by the same letter. . . ." The influence of Du Ponceau is obvious here. The very fact that Pickering finds it necessary to explain the lack of difference between the qualities of the two sounds indicates, perhaps, that he is somewhat uneasy with Du Ponceau's dictum. One should recall, in this respect, Pickering's handwritten footnote in his copy of Du Ponceau's English Phonology. In any event, Pickering seems to feel that there may be room for disagreement, for he writes (pp. 356-357): "If, however, any person, who may wish to adopt the proposed Indian alphabet, should still feel a reluctance in employing the letter o . . . for the purpose of denoting this short sound of u, I know of no method of obviating the difficulty (consistently with the plan of the Alphabet) except by having recourse to a new character . . ."

Pickering doubtless would have been among the first to admit that his alphabet, as it stands in this essay, could not completely or exactly represent the sounds of almost any Indian dialect chosen at random. Pickering was certainly not ignorant of the existence of non-European speech sounds in the Indian languages. The mere fact of his correspondence with Du Ponceau would have assured this. Pickering, in-

stead of aiming at exact phonetic description, attempts to devise a workable alphabet, one which can be modified to meet existing language conditions, one almost phonemic in its basic approach. His friend, Du Ponceau, although differing from him in some details, had nothing but praise for this endeavor. He writes, in a publication of 1830:

. . . His plan . . . is simple and easy of execution. If it is not the best that could possibly be devised, it is the one that is most likely to be certainly adopted. Brilliant theories and highly complicated schemes may dazzle for a while: but simplicity in plans presented for general practice is the mark of true genius, and must ultimately prevail.²²

Previously Du Ponceau had written, in this same passage, "Mr. Pickering did not think it necessary to appropriate to each [sound] a separate character, well knowing that approximation is all that can be reached, and that every attempt to distinguish nice differences of sound would eventually prove vain." Both men were extremely conscious of the practical aspect of Pickering's endeavor. In a letter dated July 7, 1820, as if to support his friend's convictions, Du Ponceau writes:

Your task is a different one from that of an Universal Alphabet,²³ or an Alphabet for Oriental languages--these two are for the learned, & I might

²²Zeisberger, "A Grammar of the Language of the Lenni Lenape," Du Ponceau's notes, p. 92.

²³For a brief but comprehensive review of the many unsuccessful attempts to devise workable universal alphabets, see George Philip Krapp, The English Language in America (New York: Century-Appleton Company, 1925), Vol. I, p. 330 f.

say in a degree theoretical; yours is for the unlearned, and essentially practical, & therefore, you have need for greater Simplicity, & should attend only to practical use. . . . Missionaries and Indian traders, are those from whom we chiefly expect Indian Vocabularies; Missionaries are in general good & pious men, few if any of them are men of General Science; their ears do not discriminate sounds properly, it requires a great delicacy of tact to do it-- Hence they are sometimes whimsical & find new sounds where they are not.²⁴

Edgerton, writing more than a hundred years later, says of Pickering's Uniform Alphabet, that it ". . . is nothing more nor less than a start towards an international alphabet. It is, of course, crude and rudimentary when judged by modern standards. But it is highly creditable to Pickering that he saw what was needed. . . ." Edgerton adds that Pickering was "merely making a praiseworthy attempt to introduce a minimal degree of order into the dreadful confusion which had prevailed up to then, and which still makes it so hard to know what sounds those early writers were trying to represent by the letters they used."²⁵

Practical Applications of A Uniform Orthography

Pickering's and Du Ponceau's hopes for the general use of this "Uniform Orthography" were at least partly realized. Du Ponceau, writing on September 11, 1821, to Pickering, cites a minor use:

²⁴Kirby, p. 118.

²⁵Edgerton, pp. 27-28.

. . . Through the kindness of Mr. Tudor, I received yesterday an excellent Vocabulary of the Language of the Penobscot Indians, written and spelled according to the Pickeringian Orthography, by his sister, Mrs. Gardiner, Of Hallowell, Me. . . .²⁶

More important was to be the use by missionaries.

Pickering, writing to Du Ponceau, July 13, 1820, gives the beginning of this use:

. . . I have communicated the plan to the Revd Dr. Worcester²⁷ (who is Secretary to the Amer. Missionary Board) & some of his coadjutors; who all express a warm interest in the subject, & will have a number of copies printed, by permission of the Academy, for the use of their missionaries. They also want some hints upon this subject at the great missionary School at Cornwall (Connecticut) where they have adopted an imperfect alphabet for ten or twelve languages, of our Indians. . . .²⁸

An anonymous writer in 1836 enumerates the number of publications in various languages by the American Board of Commissioners for Foreign Missions and adds:

. . . With the exception of those in the Cherokee, which have been printed in the syllabic alphabet invented by Guess, one of the tribe, the works have been printed in the orthography proposed by Mr. Pickering, as a uniform method of writing the Indian languages. This we regard as a most important improvement. . . .²⁹

²⁶Mary Orne Pickering, pp. 311-312.

²⁷Samuel Worcester (1770-1821) was a Congregational clergyman active in missionary work. He was one of the founders of the Massachusetts Missionary Society in 1799 and of the American Board of Commissioners for Foreign Missions, serving as its first corresponding secretary.

²⁸Kirby, pp. 134-135.

²⁹"Preface" to Transactions and Collections of the American Antiquarian Society, Vol. II (Cambridge: University Press, 1836), p. ix.

Comment on Pickering's Orthography was generally commendatory. Du Ponceau's was, of course, more than favorable. Mary Orne Pickering quotes him (p. 321) as saying: "If, as there is great reason to expect, Mr. Pickering's Orthography gets into general use among us, America will have had the honor of taking the lead in procuring an important auxiliary to philological science." Pickering sent a copy of his Orthography to Thomas Jefferson, then President of the University of Virginia, early in 1822, and received a reply dated February 13, which reads in part:

I thank you, sir, for your Essay proposing an Uniform Orthography for the Indian languages. It appears to me judiciously combined for effect and practice. It would be fortunate could it become the commencement of an uniform orthography for the world; but I suppose we are to despair of seeing such a sacrifice by any one generation for the good of all succeeding ones. . . .³⁰

In 1822, Pickering, at the recommendation of Du Ponceau, had sent a copy of Eliot's Grammar to the President of the Antiquarian Society of France. With this publication, Pickering enclosed a copy of his recent essay. Concerning it, he wrote (Mary Orne Pickering, p. 322):

This work is limited to the North American languages; but it will be found applicable as a practical orthography (if I am not mistaken) to the barbarous and unwritten languages of the globe in general.

Pickering was overly optimistic. His orthography never gained wide usage in writing Indian languages and today

³⁰Mary Orne Pickering, p. 318.

is not used. In connection with this, a statement from a linguist presently in the Smithsonian Institution, Bureau of American Ethnology, should be noted:

There is at present no uniform orthography for writing Indian languages. The system of symbols set forth in *Le Maître Phonétique*, official organ of the International Phonetic Association, is with some minor deviations to fit the requirements of each individual language universally adopted. This system is given in tabular form on the inside of the back cover of *Le Maître Phonétique*, July-Dec., 1953.³¹

Pickering's Influence on Hawaiian

Orthography

As a matter of fact, Pickering's Essay on a Uniform Orthography obtained its most enduring use far from Boston, the city of its origin, indeed, far from the shores of the United States.

In March, 1820, the first missionaries, led by the Rev. Hiram Bingham, arrived in the Sandwich Islands, today known as the Hawaiian Islands. At first, the spelling of native words was purely by invention and imagination. "New words were hammered out by main strength in any combination of

³¹J. P. Harrington, as quoted in a letter from M. W. Stirling, Director of the Smithsonian Institution, Bureau of American Ethnology, in a letter to the author, dated May 14, 1954.

The IPA alphabet is given in many of the standard modern works on phonetics; see, for example, R-M. S. Heffner, General Phonetics (Madison: The University of Wisconsin Press, 1949), pp. 70-72. It should be noted, however, that a phonemic type of transcription is in general use by writers whose works appear in The International Journal of American Linguistics, q. v.

letters that seemed to a given writer to suggest an approximation of what he thought he heard."³² Wise and Hervey give an account of the regularization of the Hawaiian orthography (p. 313 ff.). According to these writers, the missionaries received, January 1, 1822, two copies of a New Zealand Grammar and Vocabulary, which confirmed them in their choice of symbols for vowel sounds. "The missionaries," they write (p. 314), "greatly to their credit, had determined, among themselves to use a, e, i, o, u with their Latin values, but it is important too that the New Zealand book confirmed them in this choice." In 1822, an English missionary, William Ellis, arrived from a six-year stay in Tahiti and neighboring islands. He arrived April 7, while the first book had been printed on the preceding January 7. But, according to Wise and Hervey, "He had read John Pickering's work on establishing the orthography of American Indian languages." Consequently, he is presumed to have had much influence in determining the final shape of the orthography devised by the missionaries for the Hawaiian language. Wise and Hervey state that Bingham and undoubtedly others of the missionaries knew of Pickering's essay. In appraising Du Ponceau's English Phonology, from which Pickering's derives, they write (p. 314):

. . . Duponceau was groping toward the idea of one sound (that is, one phoneme) for each symbol and one

³²C. M. Wise and Wesley Hervey, "The Evolution of Hawaiian Orthography," The Quarterly Journal of Speech, Vol. XXXVIII, No. 3, October 1952, pp. 311-325, see p. 313.

symbol for each sound. Without having a name for it, he had an embryonic concept of the phoneme. . . . Even though the missionaries received Duponceau's idea only through Pickering, the idea was nevertheless golden and led them in the end to excellent conclusions. . . .

Actually, Bingham's contact with Pickering was earlier than the above-named writers realized. Pickering's daughter writes (p. 291):

. . . In the year 1819, when the Rev. Hiram Bingham was about setting off as the first missionary sent to the Sandwich Islands by the American Board of Commissioners for Foreign Missions, he came to consult my father as to the mode of writing the unwritten dialects of those islands, and he brought with him a Hawaiian (Owhyheean) youth, Thomas Hopoo, educated at the Foreign Missionary School at Cornwall, Conn., with whom my father had some interviews, and from whom an idea of the sounds of his native language could be obtained. By Mr. Bingham's earnest and anxious desire, my father gave him his views advocating the adoption of the foreign sounds of the vowels, afterwards forming the basis of his Essay on the Uniform Orthography of Indian Languages, which was published in the Memoires [sic] of the American Academy. . . .

The adoption of Pickering's orthography by the missionaries in Hawaii was a source of considerable pleasure to its author. In a letter to Baron Humboldt, dated January 14, 1828, Pickering mentions their mutual interest in the languages of the Pacific islands and notes that he has received material via the Boston Missionary Society from the Sandwich Islands. He adds:

. . . You will see . . . that our missionaries have adopted the systematic orthography which I recommended for our American languages, and our missionaries have remarked that the native children, by means of this orthography, learned to read their language in a much shorter time than our children in the United States learn to read English. . . .³²

³²Mary Orne Pickering, pp. 356-357.

Later, in October of 1833, he again mentions the Hawaiian language in a letter to Humboldt (May Orne Pickering, pp. 407-408):

. . . You will be pleased to see that our missionaries have adopted my views as to their orthography, instead of following our irregular and barbarous English methods. They assure me that the children of the islanders learn to read more rapidly, beyond all comparison, than our children here learn to read English,--which facility they ascribe almost entirely to the simplicity of their orthography. But there is, after all, an extreme difficulty, they say, in deciding upon the sounds in those languages, in consequence of the careless and irregular habits of speaking among the people in general.
 . . .

Of course, the difficulty was not always in the speech of the natives, but also in the hearing of the missionaries.

As Wise and Hervey point out (p. 315):

The coming of the printing press did not solve the problem of the consonants. Unresolved controversies remained over what is called in the missionaries' not always infallible English orthography "the interchangeable [*sic*] sounds which were still puzzling and provoking all concerned [*sic*]." Today we can see that in some instances ultimately either an ambiguous symbol had to be chosen, as for [w-v], or certain allophones had to be stamped out, as for [k-t] and [l-r].

.

Different people found themselves hearing Hawaiian consonants in different ways. Often the same person would hear the same Hawaiian speaker pronounce the same word with different consonants. When confronted with the two pronunciations, the Hawaiian would sometimes choose one rather than the other, or would say that both sounded alike to him and that it made no difference. Merely using Latin letters uniformly for all these sounds did not help.
 . . .

However, the use of Pickering's orthography was without doubt a long stride ahead and was the most enduring application of

that orthography.

An evaluation of Hawaiian orthography is, in a sense, an evaluation of Pickering's Orthography, for it was devised as a practical means of writing previously unwritten languages, intended to be modified as the peculiar needs of a given language demanded. Of Hawaiian orthography, Wise and Hervey write (p. 325):

. . . Anyone who has occasion to experience the relative ease of reading or writing Hawaiian will testify that, without ever having heard of phonemics, the missionaries nevertheless applied its principles with remarkable success to the devising of an alphabet for a language that had none.

A New Edition of the Indian Grammar Begun

The next major enterprise concerned with Indian languages which was to occupy the time of both Pickering and Du Ponceau was the new edition of John Eliot's Indian Grammar Begun. Originally published in 1666, a new edition was put out by the Massachusetts Historical Society in 1822. This edition had notes and observations by Du Ponceau and an introduction and supplementary observations by Pickering. The endeavor had occupied the thoughts and tentative research of the two friends ever since the beginning of their acquaintance. In the spring of 1821, Pickering, much engaged in political and legal affairs, remarked, according to his daughter (p. 295), in a letter to Du Ponceau: "I have, however, during this interval of disorder sometimes given a momentary thought to Eliot's Grammar . . ." Du Ponceau, eager to return to the project, answered at once (Mary Orne Pickering, p. 296):

I have not forgotten Eliot's Grammar. As soon as my Historical Address is finished and delivered, it will be my next object; and we will then go up to our elbows in Indian etymologies, roots, verbs, etc. I shall begin when the roses come, for it is a rosy subject to me.

(The "Historical Address" of which he writes was a discourse on the early history of Pennsylvania.)

During this time, Du Ponceau was also apparently busy on another linguistic enterprise. Mary Orne Pickering notes (p. 308) that:

Mr. Du Ponceau, in a letter to my father, July 25, 1821, says that he has nearly translated Zeisberger's Onondaga Grammar, from the German manuscript copy, and that he has begun to translate Zeisberger's Onondaga Dictionary, also in manuscript in seven thick quarto volumes, and written in German. . . .

Kirby notes that this translation of the Onondagaische Grammatica was finished but apparently never published. The Dictionary was published as Zeisberger's Indian Dictionary: English, German, Iroquois--The Onondaga and Algonquin--The Delaware. Printed from the Original Manuscript in Harvard College Library (Cambridge: 1887), edited by E. N. Horsford. Kirby comments that "Horsford, however, does not associate the translation with Duponceau."³³

By summer of 1821, the new edition of Indian Grammar Begun was well under way.

The subsequent correspondence, during the next few months, between Pickering and Du Ponceau, was chiefly a discussion of the grammatical details which had arisen

³³Kirby, p. 95.

through their examination of Eliot's Grammar and their relation to comparative philology. Both men, as has been observed, were keenly aware of the development in linguistics from a strictly historical approach to the beginnings of a comparative science. Pickering, in his "Introductory Observations" to Eliot's Grammar, cites "the great advances made in Comparative Philology."³⁴ Du Ponceau in his "Notes and Observations" writes (p. i; Pickering's introduction, Eliot's Grammar, and Du Ponceau's notes, are all numbered separately):

The great and good man, whose work has given rise to the following observations, did not foresee, when he wrote his Indian Grammar, that it would be sought after and studied by the learned of all nations, as a powerful help towards the improvement of a science not then in existence; I mean the Comparative Science of Languages, which of late has made such progress in our own country, as well as in Europe where our aboriginal idioms have become a subject of eager investigation. . . .

In his introduction to this work, Pickering writes at length (p. 7 ff.) on the capabilities of the Indian languages for extensive and intensive expression. He takes exception with those who would class the Indian languages as barbaric and deny to them extended ranges of communication and the subtle nuances supposedly inherent in the civilized

³⁴John Eliot, A Grammar of the Massachusetts Indian Languages. A New Edition with Notes and Observations, by Peter S. Du Ponceau, LL. D. and An Introduction and Supplementary Observations, by John Pickering. As Published in the Massachusetts Historical Collections (Boston: Phelps and Farnham, 1822).

languages.³⁵

Pickering discusses the vast number of so-called languages in North America, but apparently believes that order can be drawn from this confusion. He writes (pp. 12-14) of the enumeration of "twelve hundred and fourteen different dialects" in America, and says that this would be disheartening "if they were . . . as many have erroneously supposed, for the most part radically different languages." By comparative analysis, he believes, they can be reduced to three or four classes: Karalit, or Eskimaux; Delaware; Iroquois; and Floridian. Relating to this particular grammar of Eliot's, he states (p. 16) that, with respect to the languages of the Indians of New England, "there seems to have been one principal dialect, which extended through a great part of New England, and was the basis of all the others." He considers (p. 20) the Lenape "as the principal, or standard language of the New England Indians, as well as of various tribes that inhabited the adjacent territories." In a later work, Pickering credits his fourfold division of the Indian

³⁵Such ideas, however, die hard. See, for example, Archibald Hill's discussion of the tradition of "13 verbs for washing," in which he numbers the usually astute Otto Jespersen as "The linguist who has done most to present the picture of Cherokee as inefficiently particular because it lacks a general term for washing . . ." (Archibald A. Hill, "A Note on Primitive Languages," The International Journal of American Linguistics, Vol. 18, No. 3, July 1952, pp. 172-177.

languages to Du Ponceau.³⁶

There is a general agreement among linguists with Pickering's thesis of "one principal dialect" extending through the most of New England and with his statement that this dialect was the Lenape, if, by definition, this includes the so-called n-, l-, and r-dialects. Most later linguists would agree with Pickering that the "twelve hundred and fourteen different dialects" of the American Indians could be broken down into a substantially lesser number of languages. Nevertheless, this still leaves a bewildering array of languages in the New World. As Pedersen says, ". . . even yet we have not got beyond a picture of dizzying complexity . . ."³⁷

By the time the "Notes and Observations" to Eliot's pioneer work were written, Du Ponceau had greatly expanded his knowledge of Indian languages. What had probably begun as more or less a divertissement had become a main line of inquiry. Also, his contact with Indian languages had become more than academic. His intensive study in this field probably began with his translation of some of Zeisberger's

³⁶Pickering, "A Dictionary of the Abnaki Language, in North America; by Father Sebastian Rasles." With an Introductory Memoir and Notes, Memoirs of the American Academy of Arts and Sciences, New Series, Vol. I (Cambridge: Charles Folsom, 1833), pp. 371-372.

³⁷Holger Pedersen, Linguistic Science in the Nineteenth Century. Authorized translation from the Danish by John Webster Spargo (Cambridge: Harvard University Press, 1931), p. 137.

manuscript copies of the language of the Delawares. These had been sent to the Philosophical Society in Philadelphia by Heckewelder. Subsequently, Du Ponceau was charged with the translation. This led to a report of considerable magnitude, Zeisberger's Grammar of the Lenni-Lenâpé, upon which Du Ponceau spent much time and effort. His acquaintance with Indian languages, as a result of this and later research became more than literary. This study of Eliot's Grammar, then, was a part of the linguistic education of Du Ponceau. His research into the writings of Eliot did not stop with this Indian Grammar Begun, for which he wrote notes for the 1822 edition. In these notes, he says (pp. v-vi), ". . . I have not neglected . . . his translation of the sacred writings, from which I have derived a greater insight into the nature, forms and constructions of this curious language, than could be obtained from the Grammar alone; for this is by no means so full as it might have been, if the illustrious author, impelled by his zeal for the propagation of the Christian faith, had not written it for immediate use, as introductory to the further instruction, which he was so well qualified to give to those who stood in need of it. . . ." Eliot's translation of the Bible, he terms (p. ix) "a rich and valuable mine of Indian philology."

Part of Du Ponceau's discussion in his notes is entitled "Alphabet" (pp. x-xii). Here he regrets the lack of a uniform orthography and goes on to say that Pickering "has broken the ice and proposed an alphabet for our own

Indian languages, which has the merit of great simplicity." Following, he give a brief analysis (p. xi) of the defects of various national orthographies.

It is universally admitted, that the alphabets of the principal European nations, which have been hitherto used to represent the sounds of our Indian languages, are inadequate to the purpose. The English is anomalous, and its powers not sufficiently determined. Its system of vowels is particularly defective. The French partakes of the same defects, though in a less degree; and in other respects is too often apt to mislead, because its consonants are generally unarticulated at the end of words. The German is more perfect than either; but German ears do not sufficiently discriminate between the hard and soft consonants, such as b and p, g hard and k, and d and t, by which considerable confusion is introduced. . . .

He then turns to a discussion of Eliot's notation (pp. xi-xiii). He points out that Eliot uses the sound values of English spelling. Consequently, it is frequently difficult to recognize the same word spelled differently by Zeisberger and Eliot. Du Ponceau gives the example of Zeisberger's spelling in the Delaware of my heart, n'dee, ". . . which is to be pronounced as if spelt n'day . . . Eliot, on the contrary, writes it nuttah." Which, Du Ponceau wryly comments, ". . . makes it appear a different word, in which we scarcely perceive an analogy with the former."

Du Ponceau then turns (pp. xii-xiii) to the phonetic deficiencies of Eliot's notations and observations. He notes that Eliot takes no notice of the "whistled w," which Du Ponceau believes was undoubtedly in the language. He notes also the failure to represent the velar fricatives. He remarks that Eliot often employs the letter g with the

value of [k], as in "tœ hkequn," heavy, but, writes Du Ponceau, "he also uses it more properly as in English before au and uo. . . ." Du Ponceau summarizes Eliot's orthography by saying: "Upon the whole, this alphabet, though not so perfect as it might be in the eyes of the scholar, appears, nevertheless, to have fully answered the pious purpose of the excellent author. . . ."

The year after the appearance of this new edition of Eliot's Indian Grammar Begun, a new edition of another early work appeared. This was Jonathan Edward's Observations on the Language of the Muhhekaneew Indians, which has been previously discussed in Chapter I of this present study. Pickering wrote notes for this 1823 edition. Here again, as in previous researches, Pickering has occasion to regret "the want of a common orthography."³⁸

Rasle's Dictionary of the Abnaki

An important translation by Pickering appeared in 1833. The manuscript dictionary of the Abnaki language, written by Father Sebastian Rasle (or Râle) had occupied Pickering's attention, off and on, since about 1822. This Jesuit missionary who came to New England in 1689 and who was killed in a battle between the Indians and English in 1724 has left a handwritten dictionary which Pickering obtained. His leisure hours, over a period of years, were occupied

³⁸Jonathan Edwards, Observations on the Language of the Muhhekaneew Indians. A new edition with Notes by John Pickering. As published in the Massachusetts Historical Collections (Boston: Phelps and Farnham, 1823), p. 6.

with the arduous task of deciphering and copying this manuscript dictionary. There were many eclectic abbreviations in French and the ink of the manuscript was faded. All in all, Pickering faced a difficult task.

The Abnakis were member of the Lenni-Lenape linguistic stock. According to Pickering, the principal settlement of these people, who once inhabited what is now the state of Maine, ". . . appears to have been the village of Nanrant-souack (as the name is written by the author of this Dictionary), which was on the river Kennebec, near its confluence with the Sandy River, and about two hundred miles east of Boston. The Indian appellation is still preserved in our corrupted American name, Norridgewock, sometimes written Norridgewalk. . . ." ³⁹ This would place the settlement about 30 miles north by east of present Augusta, Maine. Rasle began his work here in 1691. Pickering believes the work by Rasle to be of prime philological importance. In his "Introductory Memoir" he lists several important works on Indian languages, such as Zeisberger's and Eliot's, and then says (p. 371):

But of all the memorials of the aboriginal languages in the Northern Atlantic portion of America, the following Dictionary of the Abnaki language (or Abenagui, as it is often called, after the French writers,) is now among the most important.

. . .

³⁹Pickering, A Dictionary of the Abnaki Language, p. 372.

Pickering apparently had finished the translation prior to 1832, for his daughter recounts that he had tried unsuccessfully to have the dictionary published, and that in 1832 he again made an attempt. In a letter dated May 19, 1832, he appealed to the President of the American Academy, strongly urging the publication as part of the Academy's Memoirs. He cited letters from Baron Humboldt and from Professor Vater giving high estimates of the value of this work to philology.⁴⁰ Finally, in August, 1833, the work was published with an "Introductory Memoir and Notes" by Pickering, as a part of the Memoirs of the American Academy for that year. His work was not unappreciated by later scholars in this field. Over seventy years later, Edward Everett Hale writes:

. . . Vocabularies of the . . . dialect spoken by the Abnakis, prepared by the faithful Catholic minister, Sebastian Rasle, still exist; of these the most important was printed by the American Academy as edited by the distinguished scholar, Mr. John Pickering.⁴¹

In the "Supplementary Notes" (pp. 566-574) of Pickering's translation, a section is devoted to the alphabet used by the Jesuit. Pickering writes (p. 569), "Being a Frenchman, he naturally adopted the French alphabet . . ." This refers, of course, to the French sounds of the letters. Certain

⁴⁰Mary Orne Pickering, pp. 388-390.

⁴¹James Hammon Trumbull, Natick Dictionary (Washington: Government Printing Office, 1903), Hale's "Introduction," p. xiii.

symbols, however, were added for non-French sounds. The Greek θ was used for [θ] and χ for [x]; ñ was used to distinguish "the simple sound of n" from the n of French nasal vowels; ŷ was used for [w].

Another work of Pickering's, which has not been mentioned in this chapter, is his Cherokee Grammar. Pilling refers to it as the "unfinished Cherokee Grammar of Pickering," as indeed it was.⁴² The work was interrupted and never finished because of the invention of the Cherokee syllabary by Sequoyah and its subsequent adoption by both the Cherokee Nation and by interested missionaries. Nevertheless, Pickering's work was not without value. Gallatin writes:

We are indebted to Mr. Pickering for our first knowledge of the structure and grammatical forms of the Cherokee language. Unfortunately he has published only the commencement of his Grammar.
 . . .⁴³

This endeavor of Pickering's is considered more fully in the immediately following chapter of this study.

Du Ponceau's Translation of Zeisberger's Grammar of the Leni Lenape

Consideration now turns to Du Ponceau's translation of David Zeisberger's Grammar of the Leni Lenape. One notes,

⁴²James Constantine Pilling, Bibliography of the Iroquoian Language (Washington: Government Printing Office, 1889), p. v.

⁴³Albert Gallatin, "A Synopsis of the Indian Tribes of North America," Transactions and Collections of the American Antiquarian Society, Vol. II (Cambridge: University Press, 1836), pp. 1-422, see p. 239.

in a chronological survey of Du Ponceau's works on the Indian languages, a tendency, revealed in his later works, to become less descriptive and prescriptive and to become more philosophical and speculative. This trend is evident in his translation of the Moravian missionary's Grammar. Temporally speaking, the work is a hybrid: it was presented to the American Philosophical Society on the second of December, 1816, but was not published until 1830. In the intervening time, revisions and additions had been made to the original manuscript. Actually, then, it is the product of two period of Du Ponceau's Indian language researches. In it, for example, he comments on "the astounding progress which the comparative science of language has made within the last thirty years. . . ."¹⁴ This is a comment of 1830, rather than of 1816.

Du Ponceau, however, does not view the current linguistic scene with rose-colored glasses. He realistically appraises it (p. 69):

It is very doubtful whether philology has yet reached that degree of advancement that will allow of its various parts being methodized and reduced to a general system. There are yet, perhaps, too many unsettled opinions to be fixed, too many prejudices to be dispelled, before we can take a clear, distinct, and comprehensive view of the various modes by which mankind communicate their perceptions and ideas to each other, through the medium of the senses, and trace with a steady eye their origin and progress. New and important facts are daily exhibited to us by the unwearied labours of learned men, which overthrow long established theories and turn in a great measure the current of our ideas. . . .

¹⁴Zeisberger, A Grammar of the Language of the Lenni Lenape, p. 65.

The less theoretical aspects of Du Ponceau's work here involves an interpretation of Zeisberger's phonology. He defines phonology (p. 75) as that ". . . which teaches us to distinguish the various sounds produced by the human voice, with their tones, accents, and inflections, to analyze, class, and compare them with each other, and represent them, as much as possible, by visible signs." Later (p. 89), he makes a general comment on Zeisberger's orthographic representations of Indian sounds:

The Indian words in this Grammar are to be pronounced according to the powers of the German alphabet, which Mr. Zeisberger thought proper to adopt. It has long been a desideratum in the philological science, that there should be a uniform mode of writing exotic words, in order to convey, as much as possible, the same idea of their sounds, at least to the learned, through the civilized world. But, independent of the numerous difficulties which naturally attend such a design, from the almost entire impossibility of conveying to the mind through the eye the idea of sounds which the ear never heard, an ill understood national pride makes every nation desire that their own alphabet should be chosen as the medium of communication. . . .

In this connection, Du Ponceau speaks highly of Pickering's orthography. In subsequent notes throughout the Grammar, Du Ponceau makes more specific observations on Zeisberger's notation. He says (p.99), "The Author frequently uses the letters g and k and d and t indiscriminately." He notes (p. 111) Zeisberger's representation of [ə]: "The apostrophe between the inseparable pronoun and the noun or verb indicates a sheva or mute vowel. Eliot, in his Massachusetts Grammar, indicates it by the English short y: he would write, for instance, nuttappin for n'dappin. . . ." Again (p. 121), he

comments that "The double h has not a guttural sound; it merely shews that the preceding vowel is short."

Du Ponceau's translation of this work by Zeisberger led him to the following conclusions (p. 249):

. . . It appears to me that after a careful reading of the work and a comparison of this language with those of civilized nations, the mind must be necessarily drawn to the following inferences:

1. That the grammatical forms of a language constitute what may be called its organization.

2. That this organization is the work of nature, and not of civilization or its arts.

3. That the arts of civilization may cultivate, and by that means polish a language to a certain extent; but can no more alter its organization, than the art of the gardener can change that of an onion or a potato.

4. That the contrary opinion is the result of the pride of civilized men; a passion inherent in our nature, and the greatest obstacle that exists to the investigation of truth.

Previous somewhat Rousseauian opinions from the pen of Du Ponceau, Pickering, Heckewelder, and others had brought about something of a literary tempest. It is undoubtedly true that Zeisberger, and more especially Heckewelder, living among their Indian charges, had tended to romanticize certain aspects of Indian culture in general and that of the Delaware in particular. It is also undoubtedly true that Du Ponceau, and Pickering to a more limited extent, had tended to subscribe to such views. A reaction set in, most markedly among the more academic and traditional scholars of the day. Heckewelder's History of the Indian Nations had, at the outset, been quite favorably accepted. However, in January, 1826, an anonymous reviewer comments on the published correspondence between Heckewelder and Du Ponceau:

. . . This kind of written dialogue is liable to serious objections, in grave discussion, where the efforts of the writer, and the attention of the reader should remain unbroken . . . we are prone to the belief, that a little more effort on the part of Mr. Du Ponceau would have enabled him to remodel the correspondence, and combine his questions with the answers of Mr. Heckewelder, in such a manner as sensibly to reduce the size of the book, and make a stronger impression on the reader.⁴⁵

The reviewer's chief contention, however, is with Heckewelder's history of the Delaware and, of course, with Du Ponceau's approval of Heckewelder, and with any echoes of Heckewelder's opinions found in Du Ponceau's writings. The reviewer characterizes (p. 65) Heckewelder as "a man of moderate intellect, and of still more moderate attainments; of great credulity, and with strong personal attachments to the Indians. . . . Mr. Heckewelder's naiveté," he continues, "is really amusing." Heckewelder's opus major is evaluated as follows:

. . . with much valuable information, which his book contains, and notwithstanding the purest intentions with which it was written, perhaps no work, that has appeared for half a century, has produced more erroneous impressions on this subject. . . .

The reviewer then turns to a rather intemperate estimate of Du Ponceau's views in Indian languages (pp. 74-75):

Mr. Duponceau's opinions of the harmony and music of the Wyandot language struck us as remarkable. Of all the languages spoken by man, since the confusion of tongues at the tower of Babel, it least deserves this character. It is harsh, guttural, and undistinguishable; filled with intonation, that seem to

⁴⁵"Hunter and Halkett on North American Indians," North American Review, January 1826, pp. 53-119, see p. 64.

start from the speaker with great pain and effort. It is a well known fact, that no man ever became master of it, after he had arrived at years of maturity; and its acquisition is universally considered upon the frontier as a hopeless task. . . .

There is no doubt some justification in the anonymous reviewer's estimate of Heckewelder, but in the case of Du Ponceau, the reviewer stands on shaky ground. Then, too, his opinions as to the esthetic appeal, the "harmony and music," of Indian languages merely seem to indicate that Indian languages were not his forte. A later article, presumably by the same author, reiterates the same view.

. . . After all the laudatory remarks, which have been made on the subject of the Indian languages, it will be found, that they partake essentially of the character of the people, who use them. They are generally harsh in the utterance, inartificial in their construction, indeterminate in their application, and incapable of expressing a vast variety of ideas, particularly those which relate to invisible objects. . . .⁴⁶

This is in marked contrast to the stated views of Du Ponceau, who believed that the system developed in a particular language would inevitably be the system best suited to that language; and who believed that no language could justly be called barbarous. As for the sounds of Indian languages, Du Ponceau admits that they include a multitude of strange sounds, but says that he has heard them all "pronounced with the utmost ease," and that they seem to him no more barbarous

⁴⁶"Structure of the Indian Languages," North American Review, April 1828, pp. 357-403, see p. 387.

than many of the sounds of European languages.⁴⁷ Later specialists in Indian languages would seem to be on the side of Du Ponceau. Franz Boas, for example, writing on the "alleged lack of differentiation of sounds in primitive languages," says:

It has been maintained that this is not a characteristic found in more primitive types of languages, and particularly, examples of American languages have often been brought forward to show that the accuracy of their pronunciation is much less than that found in the languages of the civilized world.

It would seem that this view is based largely on the fact that certain sounds that occur in American languages are interpreted by observers sometimes as one European sound, sometimes as another. . . .⁴⁸

Nor did Heckewelder lack defenders. William Rawle wrote a spirited defence,⁴⁹ which was read at a meeting of the Council of the Historical Society of Pennsylvania, February 15, 1826. He states, in part:

. . . [If] it has been shown, that in many instances Heckewelder has been unfairly quoted and unjustly condemned, we are entitled to ask for further evidence of his errors, before we assent to the total rejection of his book from the catalogue of our standard authorities.⁵⁰

⁴⁷Du Ponceau, Mémoire, p. 102.

⁴⁸Franz Boas, Handbook of American Indians (Washington: Government Printing Office, 1911), "Introduction," pp. 16-17.

⁴⁹William Rawle, "A Vindication of the Rev. Mr. Heckewelder's History of the Indian Nations," Memoirs of the Historical Society of Pennsylvania, Vol. I (Philadelphia: J. B. Lippincott & Co., 1864), a republication of the 1826 publication, pp. 268-284.

⁵⁰Ibid., p. 281.

It must be remembered that Du Ponceau and Heckewelder were personally acquainted and, also, that Indian philology was a cherished subject with them; that the anonymous reviewer probably belonged to the class of scholars who regard with extreme distaste and suspicion any branch of study that breaks with tradition; and, therefore, that this dispute was undoubtedly not entirely objective. Brinton probably reflects the more moderate opinions of later scholars, when he writes of Heckewelder over 60 years later. He estimates highly the Moravian missionary's contributions as a whole, but casts some doubt on his ability as an acute linguistic observer. Speaking of both Zeisberger and Heckewelder, with respect to the Delaware idiom, Brinton writes:

. . . [They] no doubt spoke it fluently in some fashion; but they had not the power to analyze it, nor to detect its finer shades of meaning, nor to appreciate many refinements in its word-building, nor to catch many of its semi-notes.⁵¹

Du Ponceau with Respect to Campanius

It should not be imagined, on the basis of Du Ponceau's defense of Zeisberger and Heckewelder, that he indiscriminately admired all early writers on Indian languages. For example, commenting on the undoubted reliability of John Eliot, Du Ponceau adds:

It is not, however, every attempt at translation into the Indian languages, that ought to

⁵¹Brinton, Essays of an Americanist, p. 315.

be trusted to by the student. Indeed, it is but too true, that even simple vocabularies, when not made by persons, who have resided long among the Indians or who are extremely careful and judicious, are in general miserably deficient. Such is that of the language of the Delawares of New Sweden, published by Campanius Holm at Stockholm in 1696, with Luther's Catechism in Swedish and Indian; both of which (the vocabulary and the translation) are exceedingly faulty, and betray the grossest ignorance of the language. . . .⁵²

A by-product of Du Ponceau's interest, unadmiring though it was, in Campanius, was his translation of a book by Thomas Campanius Holm, a grandson of the Swedish missionary. This was a travel book, of a type apparently common to any time.⁵³ It is a second-hand, sometimes third-hand, frequently fantastic account of a country which the author had never seen, but which most of his readers would never see. Du Ponceau writes:

It does not appear that our author ever was in America: he does not, in any part of this book, speak of his own knowledge. His information, is derived from the notes or memoranda left by his grandfather, and from the verbal accounts which he received from his father; to which he has added those which he derived from the writers who preceded him. . . .⁵⁴

The value of the book, according to Du Ponceau (p. vii),

⁵²Eliot, Grammar of the Massachusetts Indians, Du Ponceau's notes, p. ix.

⁵³Thomas Campanius Holm, Description of the Province of New Sweden, now called, by the English, Pennsylvania, in America. Translated from the Swedish, for The Historical Society of Pennsylvania, With Notes by Peter S. Du Ponceau (Philadelphia: M'Carty & Davis, 1834).

⁵⁴Ibid., p. vi.

lies in its account of life and conditions in New Sweden. There is in this book little of linguistic interest.

Du Ponceau's Mémoire

Du Ponceau's last important work on Indian languages was his prize-winning⁵⁵ Mémoire sur le Système Grammatical des Langues de Quelques Nations Indiennes de l'Amérique du Nord. This is probably the most philosophical, in the sense of being speculative, of any similar works of early American phonologists or linguists. Du Ponceau had by this time (1838) over twenty years' experience, both academic and practical, with Indian languages. He had written much and thought much. In a sense, this work is the last and most mature fruit of his labors and thoughts. Although this work was only five or six months in the writing, it is far from appearing to be a hasty or ill-considered piece of writing. Its main weakness lies in the sprawling organization. Du Ponceau has taken the opportunity, here, to air many of his favorite views on Indian languages.

He holds the opinion that a written language naturally and logically develops from a given spoken language and that this natural development is the best for a given language. Writing of Sequoyah's invention of the Cherokee syllabary, he says (Mémoire, pp. 45 and 49):

L'exemple de notre sauvage nous présente la nature prise sur le fait dans l'invention d'un système

⁵⁵The Volney Prize of the French Institute.

d'écriture. Il est, par conséquent, inappré-
 ciable. C'est le hasard qui l'a produit; quelque
 autre hasard, peut-être, nous fera faire de nou-
 velles découvertes avant que la race de nos Indiens
 soit entièrement éteinte.

.

Si j'ai prouvé que les signes graphiques devaient
 être en harmonie avec les langues don [sic] ils ré-
 présentent les mots ou les sons, et que la nature a
 conduit les hommes à les faire tels dans leur ori-
 gine, il s'ensuit nécessairement qu'il n'y a point
 de système d'écriture qui puisse être considéré
 comme parfait, relativement à toutes les langues,
 et par conséquent qui puisse également servir à
 toutes. L'alphabet universel est donc une chimère
 que la philologie a raison de rejeter.

Du Ponceau's keen awareness of the development of com-
 parative linguistics has been mentioned before in these
 pages. Nowhere is this more definitely shown than in the
 following (p. 53):

Le premier fait qui frappe nos yeux en examinant
 les langues de l'Amérique, et en les comparant avec
 celles de l'ancien monde, est qu'il n'y a point et
 qu'il ne peut pas y avoir de grammaire générale,
 c'est-à-dire de système grammatical applicable à
 toutes les langues. On peut appeler de ce nom, si
 l'on veut, l'analyse de la pensée humaine; on
 peut, si j'ose ainsi parler, disséquer cette fac-
 ulté de notre intelligence, mettre à nu les parties
 qui la composent, les nommer et les définir; mais
 quand on veut passer de l'analyse à la synthèse, on
 voit ces parties de la pensée s'unir, se combiner
 de tant de différentes manières qu'il n'y a presque
 rien de commun. Ainsi la grammaire générale, si on
 veut l'appeler ainsi, n'est plus la science qui nous
 a été enseignée par les Harris, les Arnaud, les
 Lancelot et les Silvestre de Sacy; ce n'est plus la
 grammaire générale, c'est la grammaire comparée;
 belle et sublime science; science nouvelle, inconnue
 aux siècles qui nous ont précédés et qui n'est en-
 core qu'ébauchée; elle n'est pas arrivée au point
 où elle doit nous apparaître dans toute sa splen-
 deur.

"Nous sommes," he says, "dans le siècle des sciences compara-
 tives."

Throughout his writings, Du Ponceau makes two points, time and again: first, that the Indian languages (or, for that matter, any language) can not be termed barbaric and can not be adequately studied using systems and methods which have evolved from a study of only Indo-European languages; and, second, that a study of Indian languages (or, for that matter, of any language) must be made on a comparative basis. These are "modern" concepts. Franz Boas writes, relative to the first point:

Grammarians who have studied the languages of Europe and western Asia have developed a system of categories which we are inclined to look for in every language. It seems desirable to show here in how far the system with which we are familiar is characteristic only of certain groups of languages, and in how far other systems may be substituted for it. . . .⁵⁶

And relative to the second point:

We conclude . . . that in a discussion of the characteristics of various languages different fundamental categories will be found, and that in a comparison of different languages it will be necessary to compare as well the phonetic characteristics as the characteristics of the vocabulary and those of the grammatical concepts in order to give each language its proper place.⁵⁷

Much of Du Ponceau's theorizing is in the "Preface," which was written especially for the published form of the Mémoire. The Mémoire proper consists of twenty-one chapters, ranging from preliminary observations to conclusions. In between, Du Ponceau treats of the formation of languages, the

⁵⁶Boas, op. cit., p. 35.

⁵⁷Ibid., p. 43.

Indian languages in general, their general characteristics, and then, in Chapter V, he enters into a discussion of the Algonquian languages. In succeeding chapters, he deals with such items as the phonology, etymology, ideology, word formation, and the parts of speech of the Algonquian language family.

His treatment of the phonology of the Algonquian languages (pp. 98-106) is somewhat sketchy. He speaks in general of the fact that the sounds of a given language are not necessarily easy for other than native speakers of the languages and gives the French rounded front vowels as examples. Specifically referring to the Algonquian languages (p. 100 ff.), he mentions the established divisions into l-, n-, and r-dialects, based on the use from one dialect to another of one of these three sounds in what is essentially the same word. In addition to this feature, the various dialects of Algonquian differ phonologically, but no more so, Du Ponceau believes, than the Romance languages of Europe or the French patois one from the other. With respect to Algonquian, he continues:

Les Algonquins n'ont pas de sons extraordinaires que nous connaissions, excepté l'ou consonne sifflé ou prononcé de la gorge, dont nous avons parlé; encore ce son n'existe-t-il pas dans tous les idiomes; on ne le trouve point dans l'algonquin ni le chippéway. Il n'est pas non plus dans la langue des Outawas, ils y substituent l'ou voyelle. Ainsi, tandis qu'un Lénâpé prononcera w'danis, sa fille (en sifflant le w), l'Outaouais dira ou danis. Il en est de même dans toutes les langues purement algonquines.

Du Ponceau notes that the Algonquians have neither of the labio-dentals [f] and [v], and that [v] is rarely found in

in the American languages. The sound [f], he notes, is found in some of the Florida languages, such as Cherokee, but not in any northern language with which he is familiar. He notes that the sound of f is purely labial in the Mexican Othomis tribe and calls it an "f soufflé." Commenting on other consonant sounds, he writes (pp. 104-105):

Les Algonquins purs ou Chippéways ont la consonne s telle que nous la prononçons; les Lénâpés ne l'ont point; ils ont le z des Allemands et des Italiens prononcé ts. Quelques-unes ont le ch français, et plusieurs ont aussi notre j, que les Anglais écrivent zh. Les Chippéways n'ont point le ch (kh) guttural Allemand; les Lénâpés, au contraire, l'ont. . . .

Speaking of vowel sounds, he notes that the French vowels u and eu are not found, but that nearly all have the nasal vowels an and on, which are rarely, he says, written correctly by the English or Germans.

Other clues as to Algonquian phonology are scattered throughout this Mémoire in the form of comments on indicated pronunciations. Du Ponceau does not give, anywhere in this work, a complete review of the Algonquian sound system. In addition to the various remarks which have already been noted, other clues are contained in the parenthetical French respellings, which he gives as an aid to the reader. He writes (p. 137), "Nous traduisons les mots du mieux que nous pouvons en orthographe française." Examples of Algonquian words with English and parenthetical French respellings, along with some of Du Ponceau's comments, follow:

Keetekwao (kitikouaou)

Keen (kin)

Eendaninneneew (indenininou)--"Il faut prononcer

dans ces langues in comme en latin, et non ain ou ein, comme en françciase." Here also (p. 139), Du Ponceau speaks of the interchange of [d] and [t]: ". . . les Indiens prennent souvent l'une de ces consonnes pour l'autre . . ."

Wachemaunet (ouatchimânet)

Wahne (ouâni)

Chemaune (tschimâni)

Wahotoshian ik (ouahotosoyâouik)

Neendiah (nindayâ)

As can be seen from the preceding few examples (taken from pp. 137, 139), Du Ponceau did not, at least in this case, use the Uniform Orthography proposed by John Pickering. Of course, it may be that the spellings of Algonquian words here given were taken from an already established mode of spelling. Du Ponceau does not say.

In the two appendices of this Mémoire (pp. 257-269, 271-411), the pages are devoted to comparative vocabularies. "Appendix A" consists of a comparative vocabulary of Algonquian and Iroquois, showing the complete lexical difference which exists between the two languages, "quant à l'étymologie des mots." "Appendix B" is called "Vocabulaire Comparatif et Raisonné des Langues de la Famille Algonquine." In this section are found comments, especially with respect to structural differences and similarities, on the various dialects of the Algonquian family.

Other Contributions to the Study of Indian Languages

Despite the predominance of the names of John Pickering and Peter Du Ponceau in the preceding pages, it must not be thought that the study of North American Indian languages

began or ended with these two men, or, that it revolved about them to the exclusion of any other scholars, collectors, or researchers. However, it is true that the impulse which Pickering and Du Ponceau, especially the latter, gave to this branch of philology was of the utmost importance. Pickering states with undisputable justice:

. . . Mr. Du Ponceau . . . was the first writer who took a comprehensive view of the languages of the whole continent, and established the general conclusion, that the American dialects, from one extremity of the continent to the other (with perhaps some exceptions), form a distinct class, or family; which, from their highly compounded character, he has happily designated by the term polysynthetic.⁵⁸

The work of Du Ponceau and Pickering would have been well-nigh impossible without the early investigations of Williams, Eliot, et al, and would have been much more difficult and much less complete without the contributions, of little importance in themselves, of contemporaries. The contributions of scholars whose interests did not lie primarily in the field of Indian languages, the vocabularies and observations of explorers and missionaries, all became integral parts of a whole toward which Du Ponceau and Pickering aimed and which at length was more nearly attained by Albert Gallatin.

Practically every piece of writing that touched upon Indian languages was grist to this particular mill. Many of the isolated contributions are unsigned, as they exist

⁵⁸"Du Ponceau on the Chinese System of Writing," North American Review, January 1839, pp. 271-310, see p. 272. (The review is unsigned, but the writer is Pickering.)

now, and the name of the author has been lost. Unfortunately, far too many of the contributors to Indian language data represented the sounds of Indian speech in confused and inaccurate symbology. Edgerton comments on this--

. . . it is regrettable that both Du Ponceau and Pickering had to rely on records made by less clear-headed recorders. The fact appears to be that all early records of Indian languages are so haphazard in their representations of sounds as to make their scientific use very difficult, unless by a person who has a good enough knowledge of the particular language in each case to be able to guess at what words are meant, no matter how grotesquely they are written. It is precisely in the field of phonetic accuracy that linguistic progress has been, perhaps, most revolutionary.⁵⁹

Representative of much of the occasional data is a comparative vocabulary which appeared in the Collections of the Massachusetts Historical Society for the year 1799.⁶⁰ This is a comparative vocabulary of three Indian dialects. The author's remarks with respect to pronunciation well illustrate the problems faced by linguists seeking to reduce this and like contributions to some sort of system. The anonymous author writes (p. 16 and footnote, p. 16):

The orthography might be much simplified; but being willing to come as near the sound of the words as possible, I have used more letters than perhaps were really needful. On looking over these sheets,

⁵⁹Edgerton, p. 30.

⁶⁰"Specimen of the Mountaineer, or Sheshatapoosh-shoish, Skoffie, and Micmac Languages," Collections of the Massachusetts Historical Society. For the year M,DCC,XCIX (Boston: Samuel Hall, 1800), pp. 16-33.

I find, in many places, the same articulations differently expressed: these, however, are sufficiently obvious to make a correction unnecessary.

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When a letter, in the middle of a word, is printed in italic, it is meant to make a strong aspiration, not amounting to a distinct articulation. If this accent (') be printed over a letter in the middle of a word, it shows where the emphasis dwells on a particular syllable, which is pronounced very forcibly. When this accent (ˉ) is placed over a letter it is meant that it shall have a very broad pronunciation.

In common with many philologists and linguists of his time, this writer's habits of thought had probably been determined by knowledge of Indo-European languages. He finds it difficult, therefore, to adapt to a language which does not function according to the rules that he had learned. He observes (p. 17), rather despairingly:

From the irregularity of these languages, it appears almost impossible to reduce them to the rules of grammar. I do not recollect a single instance, wherein the formation of the plural agrees in any two words. The same words, in different situations, often become totally different; and the declination of the verbs is yet more exceptionable. The attainment of these dialects, should it be ever attempted, must, therefore, be attended with immense difficulty.

Linguistic data came piece-meal from many different sources. Travelling gentlemen of leisure, scientists in fields other than linguistics, explorers, all contributed fragmentary bits of information. Such a one was William Bartram, a member of the American Philosophical Society, known chiefly as a botanist, "the last," according to one account, "of the old school of picturesque travellers, and author of a work of travels in the Carolinas and Floridas,

published in 1791."⁶¹ In an article on the Creek and Cherokee Indians, dealing with non-linguistic data, he comments: "Their [the Cherokee] language is radically different from that of the Creeks, sound the Letter R frequently . . ."⁶² Unimportant in itself, this, and similar observations, were small facets in the picture of Indian languages which was being formed by enthusiastic scholars such as Pickering and Du Ponceau.

Barton's Essay

Of much greater scope and significance was a collection of vocabularies by Dr. B. S. Barton. Du Ponceau, in reviewing some linguistic works and their authors, mentions "Dr. B. S. Barton's 'New Views of the Origin of the Tribes and Nations of America.'" Du Ponceau regrets that Barton was drawn away from his original philological designs: ". . . he conceived," Du Ponceau laments, "that by comparing the American with the Asiatic languages he could prove the origin of our Indians from the nations which inhabit the opposite coast of Asia; and thus he sacrificed the real advantage of science to the pursuit of a favourite theory. He has nevertheless brought together, in a comparative view, fifty-two select words in about thirty or forty of our

⁶¹William Bartram, "Observations on the Creek and Cherokee Indians," Transactions of the American Ethnological Society, Vol. III.--Part I (New York: George F. Putnam, 1853), p. 3, prefatory notes by E. G. Squier.

⁶²Ibid., p. 14.

aboriginal idioms . . . His was the first attempt to collect and compare to some extent specimens of our Indian languages, and as such it is useful to philologists and entitled to respect."⁶³

Barton, a professor of medicine, natural history, and botany at the University of Pennsylvania, was concerned chiefly with the origin of the American Indian. In his "Preface," he gives the two most common theories: (1) the supposition that the original Americans are derived from some other continent--Asia, Europe, Africa, or even Atlantis; and (2) that they are aborigines in the strict sense.⁶⁴ Barton definitely leans to the first theory and considers Asia the logical homeland of the American Indian.

In contemplating the entire problem of the origin of the Indians, Barton considers it remarkable that a comparison of the languages of the Indians has been neglected in seeking a solution. This led to his extensive collection of vocabularies presented in this book. His sources are various. He states (p. x) that the words in his vocabularies "are taken [in part] from printed books, or have been communicated to me by my friends, in different parts of North-America." He himself, he says, has collected words "as they were pronounced by the Indians themselves," and

⁶³Zeisberger, A Grammar of the Lenni Lenape, Du Ponceau's notes, pp. 66-67.

⁶⁴Benjamin Smith Barton, New Views on the Origin of the Tribes and Nations of America (Philadelphia: printed for the author by John Bioren, 1798), 2nd edition, p. iv.

by interpreters, traders, etc. That Barton owes an obvious debt to Zeisberger and, more especially, to Heckewelder, is apparent in his discussions of the Delaware. He heads brief accounts of various Indian tribes and nations with the Delawares, as being the oldest and linguistically the most widespread. He says, also, "The Delawares appear to have been formerly the superior of the other nations of North American . . ." (p. xxviii).

With respect to phonology, Barton's New Views is sketchy. Scant information is given in his system of pronunciation (p. xi). The following are given specific comments:

A--represents the "open Sound," as in father.

Aa--is "to be sounded long."

E--is used as in head, bed, "or like A in table, and Ay, in say."

Ee--is used for the vowel sound in tree, bee.

I--"has the several sounds of this letter." He footnotes this with: "It often sounds like I, in the word in."

Oo--represents the vowel in ooze.

U--is the sound in us, "or in the vulgar word, fuss."

As for consonants, he gives only the following examples:

G--"hard," as in go.

J--as in just, giant.

However, it is obvious from some of his comments (pp. xx-xxii) that he uses ch for [ç] and sch for [ʃ]. Beyond the preceding, Barton is content with observing that "My mode of pronunciation will, I believe, be obvious in all other

instances." His orthography, and the sound values therefor, is essentially English. In justification, he writes (pp. ix-x):

But I cannot conclude this subject without observing that the frequent complaint that the English language is not adequate to the communicating of the sounds of Indian words, is a complaint which originates in prejudice, or in a very partial attention to the subject. . . . I do not mean to assert, that all the sounds of Indian words can be fully and completely represented by the English letters. Difficulties sometimes occur. But they occur in the writing of Indian words in any other language.

The importance of Barton's work is that it represents the first attempt to compile extensive comparative vocabularies of North American Indian languages. That it was by no means a wholly successful attempt was realized by Barton, who regrets (p. xix)

. . . that it has not been in my power to arrange the various American languages and dialects according to their affinities, or analogies, to each other. This, it is obvious should have been the arrangement. But it is an arrangement for which we are not yet prepared, because we are not yet in possession of ample vocabularies of the American languages. Time will enable us to make a much more complete analogical arrangement of these languages. Meanwhile, I have done something towards so desirable an end, particularly in some of the larger lists.

Barton's emphasis, however, as Du Ponceau points out, is not on the linguistic aspects, per se, of his vocabularies. He writes (p. xxiii) that his collection "will serve to show the affinities of the American languages to each other and the affinities of these languages to those of Asia and Europe."

Thomas Jefferson

The work of Barton and many other scholars whose names are of minor importance in the history of research on North American Indian languages, whether such work was done in the interest of some pet theory or merely as a cursory observation, is primarily of importance as a part of a developing whole. Among the avid collectors of Indian vocabularies is the man to whom Barton dedicated the first edition of his New Views, Thomas Jefferson. Jefferson, it should be noted, agreed with Barton's views as to the value of establishing a comprehensive comparative vocabulary of Indian languages. In his Notes on the State of Virginia, he writes:

Were vocabularies formed of all the languages spoken in North and South America, preserving their appellations of the most common objects in nature, of those which must be present to every nation, barbarians or civilized, with the inflections of their names and verbs, their principles of regimen and concord, and these deposited in all the public libraries. It would furnish opportunities to those skilled in the languages of the old world to compare them with the new, now or at any future time, and hence to construct the best evidence of the derivation of this part of the human race.⁶⁵

In a similar vein Jefferson writes to Col. Benjamin Hawkins:

I have long believed we can never get any information of the ancient history of the Indians, of their descent and filiation, but from a knowledge and comparative view of their languages. I have, therefore, never failed to avail myself of any opportunities which offered of getting their vocabularies.⁶⁶

⁶⁵Thomas Jefferson, "Notes on Virginia," The Writings of Thomas Jefferson (Washington: The Thomas Jefferson Memorial Association, 1907), Vol. II, pp. 1-329, see pp. 140-141.

⁶⁶Ibid., p. 161.

Jefferson himself compiled many such vocabularies, most of them since lost. Austin H. Clark writes: "He compiled comparative vocabularies of various Indian tribes, which were unfortunately stolen; but some fragments of these are deposited in the American Philosophical Society's archives."⁶⁷ Jefferson speaks of these fragments in a letter to Du Ponceau, dated December 30, 1817:

I send you the remains of my Indian vocabularies, some of which are perfect. I send with them the fragments of my digest of them which were gathered up on the banks of the river where they had been strewed by the plunderers of the trunk in which they were. They will merely show the arrangement I had given the vocabularies, according to their affinities and degrees of resemblance of dissimilitude.⁶⁸

According to Edgerton, Jefferson's entire collection of vocabularies, upon his retirement from the presidency, was sent from Washington to Monticello.

. . . But on the way the trunk was plundered by and unknown thief, who, doubtless disgusted at finding only papers of no value to him, threw all the manuscripts into the James River. Sixty-eight pages, some damaged and fragmentary, were recovered and later presented by Jefferson to the library of the American Philosophical Society.⁶⁹

The name of Jefferson is frequently mentioned in early

⁶⁷Austin H. Clark, "Thomas Jefferson and Science," p. 154, in Francis Coleman Rosenberger, Jefferson Reader (New York: E. P. Dutton & Company, Inc., 1953), pp. 149-160. Mr. Clark's article first appeared in Journal of the Washington Academy of Sciences, Vol. 33, no. 7, July 15, 1943.

⁶⁸Jefferson, op. cit., Vol. XV, p. 158.

⁶⁹Edgerton, pp. 29-30.

nineteenth century literature dealing with North American Indian languages. Du Ponceau, in writing of the languages of the state of New York, mentions the interest of Thomas Jefferson in Indian languages. Du Ponceau had received from Jefferson "un vocabulaire manuscrit de la langue des Unquachog, rest de tribu indienne qui habitait alors sur la côte méridionale de l'Ile-Longue (Long Island)." He states that Jefferson also possesses "vocabulaires des langues des Shini-cocks et des Montaks . . ." ⁷⁰ Later he mentions the vocabularies of M. de Volney of the language of the Miamis, ". . . que nous possédons écrit de sa main, pour M. Jefferson, que en a fait don à la société philosophique américaine. . . ." ⁷¹ Trumbull mentions what is apparently the same vocabulary of the Unquachog dialect as having been presented to the American Philosophical Society by Jefferson. ⁷² Albert Gallatin, in the fourth decade of the nineteenth century, was to make use of Jefferson's work. At one point, he comments on "the mutilated remnant of a comparative vocabulary compiled by Mr. Jefferson . . ." ⁷³ and in the same work writes of a manuscript "taken in 1792 by Mr. Jefferson. . . ." ⁷⁴

⁷⁰Du Ponceau, Mémoire, pp. 284-285.

⁷¹Ibid., p. 304.

⁷²Trumbull, Natick Dictionary, p. xxi.

⁷³Gallatin, "A Synopsis of the Indian Tribes of North America," p. 36.

⁷⁴Ibid., p. 42.

The Long Expedition

The westward movement of the United States added to the knowledge of Indian languages, for in the West lived tribes whose dialects were markedly different from those which the early colonists had studied. In addition to the more or less spontaneous westward movement of settlers were the expeditions planned by the federal government or by territorial governments. Such expeditions were usually documented to some extent and, to the degree that whoever kept records was interested in Indian languages and qualified to comment on them, added to the philological knowledge of the time. Representative of such expeditions was the one known as the S. H. Long Expedition. An account of this expedition, led by Major Samuel H. Long, was prepared by Edwin James. James, a geologist, was appointed in 1820 to serve as botanist and geologist with Long's exploring expedition; in the two years following, he was occupied in compiling and preparing for the press his report of the expedition. This work, entitled Expedition to the Rocky Mountains, 1818-'19, was published in two volumes with an atlas in Philadelphia and London in 1823. A more recent printing is included among Reuben Gold Thwaites' series called Early Western Travels, 1748-1846, published in Cleveland in 1905. Actually, James' philological reports are few and worthy of little comment. For example, in speaking of the fact that the Otoes, Missouris, and Ioways speak different dialects of the same language, he notes that the Oto is "pronounced more sharply . . . the Missouri dialect

differs in being more nasal . . .,"⁷⁵ Later he notes that similar to the above dialects are "Those of the Osages, Kinzas, Omawhaws, and Puncaws, the individuals of each of which nations can make themselves reciprocally understood, after a very little practice. . . . The Omawhaw and Puncaw pronunciation is more guttural than that of the two former, of which, particularly the Osage, the pronunciation is more brief and vivid."⁷⁶ James' comments are seldom if ever more detailed, more illuminating, or more precise than the preceding.

Part IV of James' account contains "Vocabularies of Indian Languages" compiled by another member of the expedition, Thomas Say, the meteorologist. Pronunciation of several languages is indicated in English orthography, with only the following brief comments as to pronunciation: that the guttural sound of a letter, the nasal sound of a vowel, and the "French sound" of the letter j are each indicated by special signs.⁷⁷

Henry R. Schoolcraft

In 1820 a scientific expedition to investigate, among other things, the sources of the Mississippi River, was

⁷⁵Reuben Gold Thwaites, Early Western Travels, 1748-1846, Vol. XV (Cleveland: The Arthur H. Clark Company, 1905), p. 135.

⁷⁶Ibid., p. 136.

⁷⁷Thwaites, op. cit., Vol XVII, p. 287.

promoted by Lewis Cass, then governor of the Michigan Territory, which comprised, at that time, all of Michigan, Wisconsin, and part of what is now Minnesota. The central Indian authority for the Territory was vested in Governor Cass at Detroit. This was one of a series of expeditions, many of them failures or, at best, qualified successes. One of the personnel of this 1820 expedition was Henry Rowe Schoolcraft, who served as geologist and mineralogist with the expedition. Born in the East, Schoolcraft had unsuccessfully tried to establish himself in business and then had set out for the West in 1818, when he was twenty-five years old. Following the 1820 expedition, Cass appointed Schoolcraft as Indian agent at Sault Ste. Marie. Biographical notes to a recent edition of one of his works give this brief account of his subsequent career:

There [at Sault Ste. Marie] and at Mackinac, where the agency was subsequently moved, Schoolcraft was for many years engaged in the researches that gave him his place among authors and scholars. Besides Algic Researches (the major source of Longfellow's Hiawatha)⁷⁸ he published many volumes of ethnological

⁷⁸Algic Researches (New York: Harper and Brothers, 1839), in two volumes, later appeared as The Myth of Hiawatha and other oral legends, mythologic and allegoric, of the North American Indians (Philadelphia: J. B. Lippincott & Co., 1856) and was dedicated to "Prof. Henry Wadsworth Longfellow." By this time, Schoolcraft had apparently reached some literary eminence; the letters LL. D. followed his name on the title page.

The term "Algic" is "derived from the words Alleghany and Atlantic, in reference to the race of Indians anciently located in this geographical area." (Algic Researches, Vol. I, p. 12.)

lore. His life's work culminated in the massive six volumes of Historical and Statistical Information on the Indians of North America.⁷⁹

It is not difficult to rank Schoolcraft as a writer.

Williams gives this estimate:

Today's reader can easily find fault with Schoolcraft as author. His labored "literary" style (which was the stamp of his times), his pretensions to learning that he does not possess (French, for example), his attempts to give his book flavor through quotations selected from whatever volume lay at hand, his obvious self-esteem, all are flaws that are hard to excuse. . . . Like all "thorough" scholars, Schoolcraft surrounded himself with the authors that had preceded him . . . From them he drew quotations--sometimes apt, sometimes not. Too often he used them as mere talking points . . . dull stuff at best.⁸⁰

An anonymous writer in 1828, reviewing Schoolcraft's Travels in the Central Portions of the Mississippi Valley, writes:

This author is among the numerous examples, which our country has afforded, of individuals, who have made their way to distinction, without any adventitious aid. We have understood, that his education was limited, and that he has been the architect of his own fortune.⁸¹

As a scientific theorist concerned chiefly with ethnology and secondarily with philology, Schoolcraft is frequently derivative to a marked extent and often his theories are without sound bases. He was, after all, a self-made man, both as an author and as a scientist, and he was not inarti-

⁷⁹Henry R. Schoolcraft, Narrative Journal of Travels Through the Northwestern Regions of the United States Extending from Detroit through the Great Chain of American Lakes to the Sources of the Mississippi River in the Year 1820, edited by Mentor L. Williams (East Lansing: The Michigan State College Press, 1953), p. 15.

⁸⁰Ibid., p. 23

⁸¹"Structure of the Indian Languages," p. 358.

culate during his formative years. As an observer of Indian life, and here the principal concern is with his phonological observations, his accuracy has never been seriously questioned. Certainly his opportunities for observation could hardly have been better: he lived among and upon good terms with Indians for many years, his wife was an Indian, among his white friends and acquaintances he numbered trappers, traders, explorers, agents, and missionaries--all in almost daily contact with Indians.

It has been said that Indian languages were of secondary concern to Schoolcraft. This is even more true as concerns the phonology of Indian languages. Schoolcraft was interested especially in Indian ethnology. He was interested in Indian languages as they related to this primary interest and as they were relevant to other more or less philosophical lines of thought. Perhaps as a consequence of this, it is well-nigh impossible to systematize Schoolcraft's phonological comments, which are scattered throughout his several books. There would seem to be three not too clean-cut divisions: (1) comments primarily concerned with the phonological aspects of various Indian languages; (2) comments of a more theoretical or philosophical nature; and (3) comments concerned mostly with Schoolcraft's correspondence with well-known people, his opinions concerning such people or their works, or concerning things that he read. It must be realized that Schoolcraft spent most of his time isolated from the bulk of his own race and that he

was usually in contact with the mainstream of American and European thought only through the written word. To add to the difficulty of phonological comment on Schoolcraft's writings is his weakness as a phonologist. Edgerton, who acknowledges an indebtedness to Bloomfield for an examination of Schoolcraft's comments, writes:

. . . it appears that Schoolcraft unquestionably had a sound and thorough knowledge of the language and in general analyzed its forms quite intelligently. His weakest point is his orthography, which is fatally inconsistent; he constantly represents the same sound by different letters, and vice versa. It seems never to have occurred to him that there would be advantages in settling on some one sign for each single sound and sticking to it.⁸²

Schoolcraft's Publications

Some of Schoolcraft's earliest thought and observation are contained in one of his later publications. His Discovery of the Sources of the Mississippi River, published in 1855, is an account of the expedition of 1820; hence, much of the material antedates by many years the publication date. Material concerned with Indian languages is contained in the two appendices. Appendix I contains a letter from Schoolcraft, dated May 31, 1823, to Governor Lewis Cass, and titled "Examination of the Elementary Structure of the Algonquin Language as it appears in the Chippewa Tongue." This dialect, Schoolcraft notes, is also called the "Odjibway." The observations in this letter probably constitute Schoolcraft's earliest recorded remarks on the sound system of any Indian language. He lists first the "simple sounds" and then

⁸²Edgerton, p. 30.

turns to the "letters not used."

. . . The language is one of easy enunciation. It has sixteen simple consonantal and five vowel sounds. Of these, two are labials, b and p; five dentals, d, t, s, z, j and g soft; two nasals, m and n; and four gutturals, k, q, c, and g hard. There is a peculiar terminal sound of g, which may be represented by gk. Of the mixed diphthongal and consonantal sounds, those most difficult to English organs are the sound in aiw and auw.

. . . The language is wholly wanting in the sound of th. It drops the sound of y entirely, substituting b, in attempts to pronounce foreign words. The sound of l is sometimes heard in their necromantic chants; but, although it appears to have been known to the old Algonquin, it is supplied, in the Odjibwa of this day, exclusively by n. It also eschews the sounds of f, r, and x, leaving its simple consonantal powers of utterance, as above denoted, at sixteen. In attempts to pronounce English words having the sound of f, they substitute p, as in the case of y. The sound of r is either dropped, or takes the sound of au. Of the letter x they make no use; the nearest approach I have succeeded in getting from them is ek-is, showing that is is essentially a foreign sound to them. The aspirate h begins very few words, not exceeding five in fifteen hundred, but it is a very frequent sound in terminals, always following the slender or Latin sound of a, but never its broad sound in au, or its peculiarly English sound as heard in the a of may, pay, day.

. . . These rules of utterance appear to be constant and imperative, and the natives have evidently a nice ear to discriminate sounds.⁸³

One assumes that "j, and g soft" among the simple sounds both represent the same sound, the fifth of the five dentals, and that Schoolcraft means [d₃]. The "peculiar nasal combination in ng," which is mentioned in this same passage, could easily signify [ŋ], but used, perhaps, in non-English positions. The terminal sound which Schoolcraft represents by gk could have been heard as [x] or [ç]; equally, this could be the sound to which he refers when he mentions a

⁸³Schoolcraft, Discovery of the Sources of the Mississippi River (Philadelphia: Lippincott, Grambo, and Company, 1855), p. 443.

terminal h. His listing of "four gutturals, k, q, c, and g hard" is confusing. By q he could mean [q], a frequent sound in Indian languages, but the meaning of c is obscure. Schoolcraft sheds no light on this in his subsequent works.

In an 1847 publication,⁸⁴ dealing principally with the Iroquois, Schoolcraft, when he is concerned with linguistic material or theory, is chiefly occupied in speculation rather than phonologic observations. In this Notes on the Iroquois Schoolcraft expresses himself clearly and acutely on the subject of comparative linguistics, although the ideas are necessarily not entirely original with him. An extended quotation is in order at this point. He is speaking of the relation of Indian languages to each other.

The comparison of concrete vocabularies is not sufficient [sic] for this purpose, although it has been heretofore chiefly relied on. Philologists must look up and search out the principles by which vowels and consonants necessarily change. Their juxtaposition to an antagonistical letter, must affect them--the principles of euphony, in a savage tongue, are ill explained. But we see, everywhere, that these tribes lay great stress on them themselves. Of the laws of consonants, as effected by minute traits in the physical organization of the tongue and glottis, we have better cognizance. But above all, the inquiry should be directed to the formation of generic comparative tables of roots and radical particles, expressing the same general ideas, as thought, motion, sound. It must be evident, to observers in our aboriginal philology, that different nations, and even remote tribes of the same ethnographical family, do not designate all objects by the same traits or characteristics, where the vocabulary

⁸⁴Schoolcraft, Notes on the Iroquois; or Contributions to American History, Antiquities, and General Ethnology (Albany: Erastus H. Pease & Company, 1847), p. 364.

is admitted to be essentially the same, and consequently the words must differ. Thus one tribe calls a horse the beast that bears burthens; another merely pack; another the beast of solid, or unsplit hoofs; another simply by a word which we may translate servant, or dog. Before vocabularies can be rightly compared, we should be sure that the natives meant to express the same ideas, by the different names bestowed. It is important, too, in making comparisons of the vocabulary of remote tribes, to know whether the name be generally adopted, or there be two or more names for the same object. And especially, whether words be used with, or without the pronouns, and other cumulative adjuncts. Without the analysis, and a very complete one of every word in the vocabulary, no true advance can be made.⁸⁵

In this work, Schoolcraft makes few remarks of a strictly phonological nature, and those which are made are couched in non-scientific language, as, for example, his description of the Iroquois dialect (p. 392):

The Iroquois has no labials; it rolls from the tongue and glottis, with lips unclosed. And although it has some of the deepest gutturals, it abounds in long and open vowel sounds, along with its liquids and aspirates, which fall musically on the ear, and give it a manly, and dignified flow. Its nasal vowel sounds and diphthongs [sic], as heard so often in the Oneida and Onondaga dialects, have a peculiar softness and melody.

Thirty Years with the Indians

Somewhat of the development of Schoolcraft's thought and a certain maturing in his viewpoint can be observed in his Thirty Years with the Indian Tribes, published in 1851.⁸⁶ This is a diary-like work, recording the author's actions,

⁸⁵Ibid., pp. 384-385.

⁸⁶Schoolcraft, Thirty Years with the Indian Tribes (Philadelphia: Lippincott, Grambo and Co., 1851).

thoughts, correspondence, and acquaintances during his career as an Indian agent. Specific phonological observations are almost absent in this work. Instead, one finds somewhat fragmentary remarks on linguistic theories and writings, and persons with whom Schoolcraft corresponded or with whom he came into personal contact. There is also considerable speculation, none of which is sustained to any great extent. The book does shed light on Schoolcraft's own methods and opinions. One learns, for example, his method of studying an Indian language (p. 107):

The study of the language, and the formation of a vocabulary and grammar have almost imperceptibly become an absorbing object, although I have been but a short time at the place, and the plan interests me so much, that I actually regret the time that is lost from it, in the ordinary visits of comity and ceremony, which are, however, necessary. My method is to interrogate all persons visiting the office, white and red, who promise to be useful subjects of information during the day, and to test my inquiries in the evening by reference to the Johnstons, who, being educated, and speaking at once both the English and Odjibwa correctly, offer a higher and more reliable standard than usual.

The Johnstons mentioned here were the family of Mr. John Johnston, "a gentleman from the north of Ireland" (p. 92). This same Johnston is mentioned by Du Ponceau as contributing a vocabulary to Archaeologia Americana in 1820.⁸⁷ This contribution was actually a short article which contains sketchy vocabulary lists of the Shawanoese and Wyandot languages. In them, Johnston gives no indication of

⁸⁷Du Ponceau, Mémoire, p. 291.

pronunciation.⁸⁸ At the time this was written, Johnston was Agent for Indian Affairs, residing at Piqua, Ohio. His wife was an Ojibwa. A hospitable man, he and Schoolcraft were on friendly terms. As a matter of fact, Schoolcraft owed much of his knowledge of the Chippewa or Ojibwa language to the Johnston family, as Jan Johnston, daughter of John Johnston and granddaughter to an Ojibwa chief, became Schoolcraft's wife. To her, Ojibwa was a native language.

Frequently in reading Schoolcraft's works, one gains the impression that Schoolcraft often thought of himself as a frustrated scholar, frustrated chiefly by his isolation. If he was isolated from scholarly company, at least he had the time and inclination for thought. This meditation led him from time to time to conclusions which he withheld from publication until he felt that his fame was reasonably secure. Schoolcraft's reticence, as far as printed views are concerned, extended to the minor tempest, centering in the pages of the North American Review, concerning Heckewelder's accounts of the Delaware Indians. At least, there is no record of Schoolcraft's having taken public part in the quarrel. However, in his Thirty Years with the Indian Tribes, in writing of recent research on Indian languages (p. 238), he speaks of ". . .

⁸⁸John Johnston, "Account of the Present State of the Indian Tribes inhabiting Ohio," Transactions and Collections of the American Antiquarian Society, Vol. I (Worcester, Mass.: William Manning, 1820), pp. 269-299.

the original literary mummerly and philological hocus-pocus based on the papers and letters and blunders of Heckewelder. There was," he says, "a great predisposition to admire and overrate everything relative to Indian history and language, as detailed by this good and sincere missionary in his retirement at Bethlehem. He was appealed to as an oracle . . ."

One of the factors that undoubtedly weakens the value of Schoolcraft's work is his characteristic timidity to publish opinions and theories disagreeing with the authorities in the field. This kind of inferiority complex, doubtless arising from his lack of formal education and his very real lack of knowledge of the classical disciplines, gives a carping quality to much of his writing. This disinclination to express a forthright opinion, his frequently turbid style, the infrequency of exact observation and the frequency of generalized speculation, despite a lack of philological knowledge--all probably account for the fact that his name is a comparative stranger to later surveys of Indian languages, such as that of Albert Gallatin. Nevertheless, he was capable of growth, and it is regrettable that he had so little background to make significant use of his opportunities and zeal for observation and speculation. His concept of the use of philology was certainly one with which one cannot quarrel. Somewhat tentatively, he writes :

Philology is one of the keys of knowledge which, I think, admits of its being said that, although it is rather rusty, the rust is, however, a proof of its antiquity. I am inclined to think that more

true light is destined to be thrown on the history of the Indians by a study of their languages than of their traditions, or any other feature.⁸⁹

Albert Gallatin

The summation of the work of Du Ponceau, Pickering, et al, occurred in 1836 with the publication of Albert Gallatin's "Synopsis of the Indian Tribes of North America."

Gallatin was born of a partician family of Geneva. After being graduated from the University of Geneva in 1779, he emigrated to the United States, arriving in Boston in 1780. After a brief service in the Revolutionary War, he taught French at Harvard. Later, he became a gentleman farmer, first in western Virginia and later in Fayette county, Pennsylvania, near the Virginia border. Before his death in 1849 at the age of 89, he had achieved honors both as a statesman and as a scholar. His "Synopsis of the Indian Tribes" marks not only the summation of an era in Indian philology but the beginning of a new era, that characterized by the research of Franz Boas, James Pilling, J. W. Powell, Horatio Hale and other men employed principally by the federal government's Bureau of Ethnology and later by modern phoneticians and phonemicists employed by the American Bible Society and by various universities, or by scholars working individually. Powell, writing of the nomenclature of linguistic families, appraises Gallatin in these words:

. . . Gallatin may be considered the founder of

⁸⁹Schoolcraft, Thirty Years with the Indian Tribes, p. 176.

systematic philology relating to the North American Indians. Before his time much linguistic work had been accomplished, and scholars owe a lasting debt of gratitude to Barton, Adelung, Pickering, and others. But Gallatin's work marks an era in American linguistic science from the fact that he so thoroughly introduced comparative methods, and because he circumscribed the boundaries of many families, so that a large part of his work remains and is still to be considered sound. There is no safe resting place anterior to Gallatin, because no scholar prior to his time had properly adopted comparative methods of research, and because no scholar was privileged to work with so large a body of material. It must further be said of Gallatin that he had a very clear conception of the task he was performing, and brought both learning and wisdom to it. Gallatin's work has therefore been taken as the starting point, back of which we may not go in the historic consideration of the systematic philology of North America. The point of departure therefore is the year 1836, when Gallatin's "Synopsis of Indian Tribes" appeared in vol. 2 of the Transactions of the American Antiquarian Society.⁹⁰

Gallatin's "Synopsis" is a comprehensive study on a comparative basis of the North American Indian languages. The work consists of a general introduction, a treatment of Indian tribes on the basis of a geographical division, some "General Observations," a chapter on Indian languages, an appendix of "Grammatical Notices and Specimen of Conjugations and Transitions," an appendix of vocabularies, and a final appendix of "Select Sentences." No such extensive enterprise in relation to North American Indian languages had before been attempted. An anonymous reviewer, writing in 1837, says:

⁹⁰J. W. Powell, "Indian Linguistic Families of America North of Mexico," Seventh Annual Report of the Bureau of Ethnology, 1885-'86 (Washington: Government Printing Office, 1891), pp. 9-10.

. . . Mr. Gallatin has thoroughly explored the writings of the early missionaries to this continent, and appears to have had access to some portion of these reports, which could only have been obtained in France. He stoops, however, to glean information wherever it was to be found, and seems to have acted on the maxim, that nothing was too high or too low to contribute to his purpose. . . .⁹¹

The reviewer does not exaggerate. Gallatin ranges from the small vocabularies collected by such men as Dr. Thomas Say to the major contributions of Du Ponceau. According to Edgerton, the Secretary of War, at Gallatin's request, circulated a printed questionnaire which contained a vocabulary of 600 words, selected sentences, and grammatical queries. "The idea was a good one," writes Edgerton, "though the returns seem to have been disappointingly meager."⁹² With respect to Du Ponceau, it is interesting to note that Gallatin agrees with two major propositions which he ascribes to Du Ponceau:

1. That the American languages in general are rich in words and in grammatical forms, and that, in their complicated construction, the greatest order, method, and regularity prevail.
2. That these complicated forms, which he calls polysynthetic, appear to exist in all those languages from Greenland to Cape Horn.

Gallatin continues:

The fundamental characteristics of the Indian languages of American appear to be a universal tendency to express in the same word, not only all that modifies or relates to the same object, or action,

⁹¹"History and Languages of the North American Tribes," North American Review, July 1837, p. 37.

⁹²Edgerton, p. 30.

but both the action and the object; thus concentrating in a single expression a complex idea, or several ideas among which there is a natural connexion. . . . ⁹³

Gallatin pays tribute to Pickering, notably (p. 239) for his work with "the structure and grammatical forms of the Cherokee language," but does not use Pickering's orthography.

Gallatin's approach to Indian languages in this work is chiefly through the lexicography and structure of the languages. He deals very little with phonology specifically. However, the following general statement is of interest (pp. 4-5):

[An] important observation relates to the great difference in the orthography of those who have collected vocabularies. Those which proceed from the native language of the writer, may be reconciled without much difficulty; and it is almost sufficient, in that respect, to note whether he was an Englishman, a German, a Frenchman, &c. But the guttural sounds which abound in all the Indian languages, and even some of their nasal vowels, have no equivalent, and cannot be expressed with our characters, as used by the French or English. The perpetual substitution for each other of permutable consonants, the numerous modifications of which vocal sounds are susceptible, and the various ways in which we express them, even in our own languages, have been fruitful sources of the diversified manner in which the same word is spelled by the European hearers. It requires some practice before you learn how to decipher those varieties. The habit, is, however, acquired by comparing together the several vocabularies of the same language, and of two or more dialects previously ascertained to be only varieties of the same tongue.
 . . .

⁹³Albert Gallatin, "A Synopsis of the Indian Tribes of North America," Transactions and Collections of the American Antiquarian Society, Vol. II (Cambridge: University Press, 1836), p. 164.

Gallatin writes that in choosing his general comparative vocabulary, the choice of words was controlled by extant material. Many words were omitted which were found in only a few of the vocabularies. He writes (p. 160):

It happens, however, that the greater number of words of which we have the equivalents in most Indian languages, belong to that class, which has generally been considered as so absolutely necessary in any state of society, that the words of which it consists must have been in use everywhere in its earliest stages, and could not have been borrowed by any nation from any other.

Thus, when Gallatin finds a sufficient number of words of this class to be the same or similar in two or more languages, he considers such languages as of the same stock, "and the nations which spoke them, as having belonged to the same family, subsequent to the time when mankind was divided into distinct nations. . . ."

In an 1845 publication,⁹⁴ Gallatin attempted to do for the Mexican and Central American Indian languages what he had done for the languages of the North American Indians. Here, he deals only briefly with languages per se, being concerned at more length with such things as numeration, calendars, astronomy, history, and conjectures on the origins of American civilization.

Gallatin was one of the founders of the American Ethnological Society in 1842, becoming its first president. In the following year, he was elected to the presidency of the

⁹⁴Gallatin, "Notes on the Semi-Civilized Nations of Mexico, Yucatan, and Central America," Transactions of the American Ethnological Society, Vol. 1 (New York: Bartlett & Welford, 1845), pp. 1-352.

New York Historical Society, an office to which he was elected annually until his death. He died in 1849 after having established the foundation of modern North American Indian linguistic study, a foundation built upon the efforts of a long line of contributors, from William Wood down to Gallatin himself.

CHAPTER IV

SEQUOYAH

Almost as unique as the giant sequoias of the forests of California is the man for whom these trees were named. This man was Sequoyah, a Cherokee Indian. At the same time that Pickering and Du Ponceau were enthusiastically collecting vocabularies and making comparative studies of Indian languages--indeed, at the same time that Pickering was devising a Cherokee grammar, Sequoyah effectively reduced the unwritten language of his nation to writing. A biographer describes him as "an illiterate Indian genius who, solely from the resources of his mind, endowed a whole tribe with learning; the only man in history to conceive and perfect in its entirety an alphabet or syllabary."¹

Other talented North American Indians have aided their people toward literacy, but not working as Sequoyah did, unaided either by direct or indirect contact with white philologists. Sequoyah is the sole example in early American phonology of an important linguist or phonologist pursuing his work uninfluenced by his contemporaries. He was influenced neither by the various current investigations of

¹Grant Foreman, Sequoyah (Norman, Oklahoma: University of Oklahoma Press, 1938), p. 3.

Indian languages nor by past researches. As John Swanton testifies:

The Cherokee tribe is one of the most famous in all North America, (1) on account of its size and strength and the prominent part it played in the history of our country, (2) from the fact that the invention of the Cherokee alphabet by Sequoyah was the only case of the adoption of a system of writing without immediate White prompting in the annals of our Indians. . . .²

The only comparison in modern times is with the Albanian poet and patriot, Sami bey Frasheri, who created in 1896 a national alphabet with thirty-six characters. Pedersen writes that "the Albanian were presented with a gift similar to that which Ulfilas gave to the Goths in the fourth century, and Kyrillos gave to the Slavs in the ninth. The alphabet fitted the language perfectly. . . ."³ Similarly, Sequoyah's syllabary seems to have fitted the Cherokee language perfectly.

Actually, the only linguistic facts relevant to the invention of the Cherokee syllabary were Sequoyah's knowledge of the existence of the written discourse of the white men, his recognition of its value, and his knowledge of his own spoken language. The all-important factors were the genius and perseverance of Sequoyah.

²John R. Swanton, The Indian Tribes of North America (Washington: Government Printing Office, 1952), p. 224.

³Holger Pedersen, Linguistic Science in the Nineteenth Century (Cambridge: Harvard University Press, 1931), p. 70.

Kyrillos translated the Scriptures, writing in an alphabet constructed on the basis of the Greek alphabet, with some necessary additions.

PLATE IX



Sequoyah

The English name of this "American Cadmus" is variously given as George Guess, Guest, or Gist. Foreman uses "Guess," while Mooney, who uses two forms of the Indian name, Sikwâyi and Sequoyah, says he was known "among the whites as George Gist, or less correctly Guest or Guess."⁴ Sequoyah was born about 1770 (the date is uncertain) in the Cherokee village of Tuskegee in Tennessee, near Fort Loudon, on the Tennessee River. Writers agree on several items. He was known to be a craftsman in silver. He was not unimportant in tribal affairs. An early affliction or wound left one of his legs crippled for life. He was known to have been a soldier in the War of 1812 against the hostile Creek Indians. He had removed in young manhood to Willstown in the present state of Alabama, according to Foreman; and there, after his discharge from the army, was married to a Cherokee woman whom Foreman refers to as "Sally."⁵

The Cherokee treaty of 1817 provided for the resettlement, of those who wished to go, in Arkansas, where about three thousand Cherokees had previously located. Sequoyah was among those who left the East in February, 1818. He had some time previously commenced his work on the Cherokee language. Although illiterate, he seems to have been keenly

⁴James Mooney, "Myths of the Cherokee," Nineteenth Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution, 1897-'98, Part 1 (Washington: Government Printing Office, 1900), p. 108.

⁵Foreman, p. 3.

aware at an early age of the value of the written word. According to Foreman,⁶ he began experimentation in 1809 to express the Cherokee language in written characters. The Cherokee with whom Sequoyah emigrated settled on the north side of the Arkansas River, near the Illinois, in the present Pope County, Arkansas. Here, Sequoyah continued his experimentation. About 1821, he returned to the Cherokee Nation, taking with him messages in the characters thus far completed. He remained in the East long enough to complete his syllabary and to see it adopted by the Cherokee of the East. In 1822, he returned to Arkansas, again taking written messages with him.

Sequoyah's was not the first attempt to reduce the Cherokee language to writing. In 1802, the diligent Moravian missionaries had established a mission in the Cherokee Nation. Foreman writes:

For years they labored under the difficulty of translating their thoughts and teachings through a medium that could be understood by the Cherokees. Charles Hicks, an intelligent Cherokee, and the first convert from that tribe, gave the missionaries considerable information on the construction and inflection of the language. He said it could not be learned by writing it down as the pronunciation was different. He tried to show them how words and syllables were expressed partly through the nose and partly in the throat. The sounds were so peculiar, he said, that no combination of English vowels and consonants could fully express them. After much patient labor Hicks translated the Lord's Prayer into Cherokee, expressing the sound of the syllables as best he could with English vowels and consonants.

⁶Ibid., p. 5.

Daniel S. Butrick, a missionary at Brainern Mission, was commissioned by the American Board to learn the language and devoted several years to that purpose, with the result that he found nine modes, fifteen tenses and three numbers, singular, dual, and plural. No prepositions or auxiliary verbs were employed, these adjuncts being in the verbs themselves. Pronouns were seldom used; instead, the nouns were repeated. With the study of years Butrick was not able to express himself so as to be understood by the Cherokees.⁷

A more ambitious undertaking had been conceived and begun by John Pickering. The problem he set himself was not only to reduce the language to writing but to create a grammar of the language. This enterprise began during the summer and autumn of 1823. At that time, Pickering became acquainted with and received help from David Brown, a young Cherokee whose education was being sponsored by the Board of Missions and who was then studying at Andover. Brown, as well as being interested in gaining an education, was making public appearances in behalf of his people. John Pickering's daughter writes of the beginning of the Cherokee Grammar:

. . . As he [Brown] was frequently at our house, my father had a rare opportunity of eliciting from him practical information respecting the Cherokee language; and this led to the undertaking of making a Cherokee Grammar, on which my father was long employed in his hours of leisure and relaxation from business. It was a work requiring much labor, even with the transient assistance of a native Cherokee; for the necessary details and facts were only to be obtained by careful and repeated questions of a critical and philological nature, to the consideration of which David Brown was wholly unaccustomed. . . .⁸

⁷Ibid., pp. 9-10.

⁸Mary Orne Pickering, Life of John Pickering (Boston: University Press, 1887), pp. 331-332.

Almost two years later, Pickering had finished this work. In a letter to Thomas Jefferson, dated February 10, 1825, he writes:

I beg leave to submit to you the first sheets of a Cherokee Grammar which is now publishing by our Missionary Society under my direction. You will preceive, sir, that I have been obliged to form an alphabet, as well as to reduce the language to grammatical order. The alphabet is constructed agreeably to the general views given in my Memoir upon an Orthography for the Indina Languages, published in the Memoirs of the American Academy; but I have been obliged to add three new characters to the letters which I have taken from our own alphabet, the reasons for doing which I hope will be such as shall approve themselves to all competent judges. Upon this and any other parts of the work it would be a high gratification (if I might take the liberty to ask it) to be favored with your opinion. If you were not one of the small number among us who have given a portion of their attention to the languages of our aboriginals, I might flatter myself that you would find in this particular dialect some matter of no little novelty, as well as interest to a philosophical inquirer. . . .⁹

Jefferson replied promptly and with appreciation. He writes in part:

. . . I hope you will pursue your undertaking, and that others will follow your example with others of their languages. It will open a wide field for reflection on the grammatical organization of languages, their structure and character. . . .¹⁰

The Cherokee Grammar

Pickering's undertaking had excited considerable interest, especially among the missionaries who, as has been

⁹Ibid., pp. 331-332.

¹⁰Ibid., pp. 335-336.

observed, were experiencing difficulties with the Cherokee tongue. However, Sequoyah's invention of the Cherokee syllabary brought Pickering's enterprise to a sudden end. In the words of his daughter:

. . . The invention of the syllabic alphabet by a native Cherokee, curiously and admirably adapted for use in his own language, rendered my father's labors of not practical utility; and after forty-eight pages of the Cherokee Grammar were printed, its publication was abandoned. Sequoyah (or George Guest), the Cherokee inventor of the alphabet of syllabic characters, had not been accredited with possessing genius or ~~entrusted~~^{entrusted} by the people of his nation; but after ¹¹pon-
¹¹centrated thought, he produced the syllabic alphabet.
. . .¹¹

Pickering's Grammar remained an unfinished publication and, as described by Pilling, "breaks off in the middle of the remarks on the adjective." Pilling, writing in 1889, adds: "The only copy I have seen is that belonging to myself, picked up at a Paris bookstall; the only other copy I know of is in the library of Cornell University, Ithaca, N. Y."¹²

Pickering's orthography in this grammar is founded, as he states, on that of his "Uniform Orthography." His concern here is chiefly with the grammar of Cherokee, rather than with the sounds of the language. This aspect of Cherokee he treats briefly. In the introductory material, Pickering writes:

The principal elementary sounds of the Cherokee

¹¹Ibid., p. 337.

¹²James Constantine Pilling, Bibliography of the Iroquoian Language (Washington: Government Printing Office, 1889), p. 134.

Language . . . are to be found in the English language, and may be very well denoted by our letters with the addition of only three other characters; which last have been adopted for the sake of having, as far as practicable a distinct character to represent each elementary sound, instead of having the same letter represent several different sounds, as is the case in our English alphabet. . . .¹³

The core of Pickering's discussion of the sounds of Cherokee is contained in only five pages of the Cherokee Grammar, pages 10 to 14 inclusive. Of these, page 12 is concerned chiefly with syllabication. Pages 10, 11, 13, and 14 are reproduced herein (see Plates X and XI, pp. 249 and 250).

Remarks on the Cherokee Language

The production of Sequoyah's syllabary was not, of course, as simple as Miss Pickering's statement might make it seem. To understand Sequoyah's solution, it is necessary to understand his problem, that is, the nature of the language which he undertook to reduce to written form. This language, according to Swanton, "is the most aberrant form of speech of the Iroquoian linguistic family."¹⁴ The Cherokee Nation was geographically widespread, and, hence, had several dialects. The Cherokee language is, as Swanton says, a member of the Iroquoian family, although, according to Lounsbury, it "represents a more distant branch of the family." While conforming to the basic pattern of Northern

¹³John Pickering, A Grammar of the Cherokee Language (Boston: Mission Press, 1830), p. 2.

¹⁴Swanton, op. cit., p. 215.

A a	·ʔ a	long, as in <i>ah</i> ; short (ə) as in the first, or unaccented syllable of <i>aha</i> '.
Ā ā	Ā ā	long, as in <i>all</i> ; short (ä) as in <i>although</i> . See <i>Remarks</i> , p. 13.
D d	D d	as in <i>English</i> , nearly. See <i>Remarks</i> , p. 13.
E e	E e	long, as the first <i>e</i> in <i>where</i> , or like <i>a</i> in <i>made</i> ; short (e) as in <i>when</i> , <i>met</i> .
G g	G g	always hard, as in <i>gate</i> , <i>get</i> , <i>give</i> , &c.
H h	H h	as in <i>English</i> . See <i>Remarks</i> , p. 13.
I i	I i	long, as in <i>antique</i> , or like <i>ee</i> ; short (i) as in <i>antick</i> .
K k	K k	as in <i>English</i> . See <i>Remarks</i> , p. 13.
L l	L l	as in <i>English</i> .
M m	M m	as in <i>English</i> .
N n	N n	as in <i>English</i> .
O o	O o	long, as in <i>tone</i> , <i>mole</i> ; short (ö) as in <i>intonate</i> , <i>immolate</i> .
S s	S s	as in <i>English</i> at the beginning of words.
T t	T t	as in <i>English</i> . See <i>Remarks</i> , p. 14.
U u	U u	long, as <i>u</i> in <i>rule</i> , or <i>oo</i> in <i>pool</i> ; short (ü) as <i>u</i> in <i>bull</i> , or <i>oo</i> in <i>wool</i> .
Ü ü	Ü ü	as in <i>dumb</i> ; short (i) as in <i>undo</i> . See <i>Remarks</i> , p. 14.
Ç ç	Ç ç	nasal, as in pronouncing the first part of the words <i>uncle</i> , <i>hunger</i> , &c. See <i>Remarks</i> , p. 14.
W w	W w	as in <i>English</i> .
Y y	Y y	as in <i>English</i> .

The following combinations of the preceding simple characters often occur in the language, and are therefore here given in a distinct table:

Diphthongs—*ai* like *i* in *mine*.

au like *ow* in *how*, *now*, &c.

iu }
yu } like *u* in *mule*.

Consonants—*gs* like *x* in *exalt*.

ks like *x* in *excel*.

hw like *wh* in *when*, strongly aspirated.

kw as in *awkward*.

ts as in the proper name *Betsy*, or the old word *curtsy*, now written *courtesy*.

wt or *w't*, the whistled sound common in other Indian dialects.

The letters C, Q and X are, strictly speaking, superfluous in English, and are accordingly dispensed with in the present alphabet.

The sounds of the English single letters B, F, J, P, R, V, Z, and the double ones CH (in *church*) SH and TH, are not found in the language of the *Lower* Cherokees, which is the subject of this work; but the *Mountaineer*, or *Upper* Cherokees, who are now an inconsiderable portion of the original Cherokee nation, have the sound of *R* in their dialect. Their pronunciation is also more drawling than that of the *Lower* Cherokees; but in other respects the languages are substantially the same.

All the sounds expressed by the foregoing alphabet may then be classed, according to the common divisions of vowels, diphthongs and consonants, as follows, viz:

Vowels—*a*, *e*, *i*, *o*, *u*, *ü*, *y*.

Diphthongs—*ai*, *au*, *iu* or *yu*.

Consonants—*d*, *g*, *h*, *k*, *l*, *m*, *n*, *s*, *t*, *w*.

The following consonants may be further classed, according to their organic formation, under the denominations of *flat* and *sharp*, thus:

Flat Consonants—*a*, *g*.

Sharp Consonants—*t*, *k*, *s*.

An apostrophe (') is sometimes used to denote a momentary suspension of the voice, in uttering a word; as in *ka'htikeyu*, thou lovest them.

A cedilla (ç) under a letter denotes, that the usual sound of such letter is *nasalised*.

A diæresis (¨) is occasionally used, in the common manner, to dissolve a diphthong.

In spelling or dividing words, all syllables, except certain final ones, are supposed to end with a vowel sound, which is

A and a. These characters have been adopted for the sake of having an invariable representative of the broad sound, which is denoted in English by *aw*, and which is of frequent recurrence in the Cherokee language. The capital A, as the reader will recollect, is the same which our Saxon ancestors used to denote a similar sound; the small letter, a, is a new character.

D. The sound intended to be represented by the letter D is not quite so *flat*, generally speaking, as in English, but is rather like a sound between our *d* and *t*; so that in certain combinations of syllables the ear is at a loss to decide, whether *d* or *t* is to be preferred.

H. This letter, particularly at the end of a word, denotes a stronger aspiration than in English.

K, in the middle of a word, is often to be sounded nearly like *G*, and in many instances the letter *G* might be used instead of it; but this would perhaps destroy the *analogy* of the *written* language in some cases. For example; the word *k, keyu. I love thee*, sounds very much as if written *kygeyu*, and so in some other tenses of that verb; yet, on the other hand, in many of the tenses, the sound of the corresponding syllable of this verb is better represented by *ke* than by *ge*. If it should not make too cumbrous an orthography, it may perhaps hereafter be found convenient, in some instances, to distinguish the *flat* and *sharp* modifications of a fundamental sound by means of an additional flat or sharp consonant, (as the case may require) annexed to the principal one. For example; the *flat* sounds of the verb in question might be denoted by annexing a *g* to the *k*, thus: *Kigkeyu*, which would sound as if written, according to our English alphabet, *kung-gu-yu*; while the corresponding *sharp* sounds might be denoted by annexing another *k* to the original one, thus: *Hikkeyu* (for *hikeyu*) *thou lovest him*, which we should express in our English manner thus, *hee-ku-yu*. By this, or some such expedient, the analogies of the *written*

language might be better preserved, and some aid afforded in the investigation of etymological affinities in the *oral* language. But the reader will receive this, rather as a hint for his own consideration, than as the result of any settled opinion upon this point.

T. This letter is used in many instances, where its corresponding *flat* dental *D* would answer as well. See the preceding remarks on the letters *D* and *K*.

C. This character has been adopted for the purpose of having an invariable sign for the sound of the English short *u*, in *but, tub*, &c. which is of very frequent recurrence in the Cherokee language. This vowel sound is, fundamentally, the common sound of *o* in *tone, note*, &c. but very much shortened; and we accordingly find that foreigners, in using the English language denote it by that letter; as, for example, the word *but* would be written by them *bot*, and pronounced *bote*. The character here adopted has, therefore, been formed upon this view of the nature of the sound; and it is, as the reader will perceive, nothing more than the letter *o* with a slight opening at the top. From its resemblance to the *o* and the *u* it will be easily remembered. In *unaccented* syllables, the vowels *o, u* or *a* may often be employed instead of this character.

(. This character is used to express the English short *u* *nasalised*, which is heard in uttering the first part of the words *hunger, uncle*, and also in several words, which are written with the vowel *o*, as *among, mongrel, monkey*, &c. By the *first part* of these words is meant that portion, which is uttered the instant before the tongue touches the roof of the mouth, in order to commence the *c, g* or *k* of those words. In pronouncing this nasal *(*, if the tongue is suffered to touch the roof of the mouth, the pronunciation would be as false and as offensive to a Cherokee ear, as the like fault in pronouncing the *French* nasals would be to the ear of a Frenchman.

Iroquo1 (Mohawk, Oneida, Onondaga, Cayuga, Seneca, and Tuscarora are extant dialect), it differs considerably in details.¹⁵ During Sequoyah's time there were three principal dialects: Eastern, Middle, and Western. The Eastern (South Carolina and the adjacent part of Georgia) is distinguished, Mooney writes, by a "rolling r, which takes the place of the l of the other dialects." The Middle dialect was originally used "in the very heart of the Cherokee country, and is still spoken by the great majority of those now living on the Qualla reservation." This was written in 1900. Mooney continues:

The Western dialect was spoken in most of the towns of east Tennessee and upper Georgia and upon Hiwassee and Cheowa rivers in North Carolina. It is the softest and most musical of all the dialects of this musical language, having a frequent liquid l and eliding many of the harsher consonants found in the other forms. It is also the literary dialect, and is spoken by most of those now constituting the Cherokee Nation in the West.¹⁶

This, then, was the dialect of Sequoyah. Mooney notes also that "both d and g have a medial sound, approximating the sounds of t and k respectively. . . . The language abounds in nasal and aspirate sounds, the most difficult of the latter being the aspirate 'l, which to one familiar only with English sounds like tl."¹⁷

¹⁵Floyd G. Lounsbury, Oneida Verb Morphology (New Haven: Yale University Press, 1953), pp. 23-24.

¹⁶Mooney, "Myths of the Cherokees," p. 16.

¹⁷Mooney, "Sacred Formulas of the Cherokees," The Miscellaneous Documents of the House of Representatives for the First Session of the Fifty-Second Congress, 1891-'92,

Albert Gallatin offers the following comments on the Cherokee language in speaking of the polysynthetic character of Indian languages in general.

It is well known that Sequoyah, or Guess, a native Cherokee, succeeded in forming a syllabic alphabet for that language, consisting of only eighty-five characters, which is universally used by the Cherokees when writing in their own tongue. If he did succeed, it was because every Cherokee syllable ends in a vocal or nasal sound, and that there are no other double consonants but tl or dl, ts, and combinations of s with four or five different consonants which follow it. It is true that he departed from the principle of a purely syllabic alphabet, by assigning to the s a distinct character. But supposing he had not done so, yet, as the language has but twenty consonants or double consonants in use, including all the varieties (k and g, d and t, dl and tl), and six vowels including the nasal sound; there are at most, and considering each vowel as a syllable, but one hundred and twenty-six possible syllables in the language. Whether there exists any other of that character, I cannot say. The number of syllables in actual use in the English probably exceeds one thousand. It is obvious that the Cherokee never could, without changing this characteristic formation of syllables, become a purely monosyllabic language, since, in that case, it would have contained but the wholly incompetent number of one hundred and twenty-six words. In order to increase that number, they resorted to a combination of syllables; and a language was produced eminently polysyllabic and polysynthetic.¹⁸

Gallatin, in common with most writers, speaks of the sounds of tl, dl, rather than the aspirate l mentioned by Mooney.

V. 31. Seventh Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution, 1885-'86
(Washington: Government Printing Office, 1891), p. 344.

¹⁸Albert Gallatin, "Notes on the Semi-Civilized Nations of Mexico, Yucatan, and Central America," Transactions of the American Ethnological Society, Vol. 1 (New York: Bartlett & Welford, 1845), p. 42.

The Invention of the Syllabary

Sequoyah's invention of the syllabary was the result of long and thoughtful work. As has been noted, he early saw the value of some form of written language and set about to devise one for his own people. At first he thought to make a character for each word in the Cherokee language. However, after a year's work and the notation of several thousand characters, he dismissed this project as impossible. Finally, after some other attempts, he hit on the idea of making characters for individual syllables. He found, of course, that the same characters would apply to different words, and followed this plan to a successful completion. At the beginning, he quite naturally used pictorial symbols. He discarded this as impractical and began to use arbitrary signs. Eventually, he achieved (with the exception of an extra symbol for non-syllabic [s]) a one-for-one correspondence between symbols and syllables. The fact that he ultimately used many English letters and modifications of English letters is accounted for by Foreman, as follows. Foreman says, at one point, "He adopted a number of English letters which he took from the spelling book then in his possession."¹⁹ However, later (p. 39), Foreman quotes an extract from a book by one Capt. John Stuart of the Seventh Infantry. The extract appeared in the Arkansas Gazette, date not given. Here, Capt. Stuart writes that Sequoyah--

¹⁹Foreman, p. 23.

. . . being one day on a public road, he found a piece of a newspaper, which had been thrown aside by a traveler, which he took up, and, on examining it, found characters on it that would be more easily made than his own, and consequently picked out for that purpose the largest of them, which happened to be the Roman letters, and adopted in lieu of so many of his own characters--and that, too, without knowing the English name or meaning of a single one of them. This is to show the cause and manner of the Roman letters being adopted.

Sequoyah's characters at first numbered almost 200, but ultimately he reduced them to 86. He perfected the form of the symbols, working first with knife or nail on bark and later with pen and ink on paper.

Various writers credit Sequoyah's use of English alphabetic characters either to his inspection of an English spelling book or to the fortuitous finding of a discarded newspaper. The former seems the more reasonable and is given further credence by a statement for Sequoyah's son given to Grant Foreman, who writes: "He said the thoughts of Guess were first directed to the making of an alphabet by observing his nephew who had just returned from a distant school, spelling some words . . ." ²⁰ Du Ponceau is obviously mistaken, however, if he implies any knowledge of English to Sequoyah when he writes, ". . . Il se fit expliquer le système de notre alphabet. . . ." ²¹ And again,

²⁰Ibid., p. 47.

²¹Peter S. Du Ponceau, Mémoire sur le Système Grammatical des Langues de Quelques Nations Indiennes de l'Amérique du Nord (Paris: A. Pihan de la Forest, 1838), p. 46.

"Il s'était fait expliquer les principes de notre système élémentaire et il eût pu l'adopter. . . ." ²²

Relative to the fact that Sequoyah could reduce his characters to such a comparatively small number, John Pickering makes this comment: "As all the words in the Cherokee language end with a vowel sound, it enabled the philosopher Guest to reduce its elementary syllables to so small a number as eighty-five, and to adopt a syllabic alphabet. . . ." ²³ Du Ponceau, in his prize-winning essay, gives this account of the invention of the Cherokee syllabary:

Sequoyah ne saviat aucune langue que la sienne, mais il était un homme de génie. Etant un jour chez les missionnaires, qui avaient réussi à convertir à la religion chrétienne un grande partie de ce peuple, quelques livres anglais frappèrent sa vue. Il se fit expliquer le système de notre alphabet. Il apprit que les lettres qu'il voyait répétées représentaient les sons de la langue et les rappelaient à la mémoire. Cette idée produisit une vive impression sur son esprit. Il s'occupa aussitôt à analyser les signes de sa langue indienne. Après un long et pénible travail, dont il est inutile de donner ici les détails, il découvrit que les sons de son idiome se réduisaient à quatre-vingt-cinq syllabes, toutes finissant par une voyelle. Il n'y a dans cette langue que deux consonnes successives, tl et ts, consonnes liquides et l'autre et paraissent n'en faire qu'une. Dès-lors son problème fut résolu. Il inventa quatre-vingt-cinq caractères, dont il appliqua un à chaque syllabe de sa langue, et son syllabaire fut complet. ²⁴

Mooney gives a more detailed account of Sequoyah's experi-

²²Ibid., p. 45.

²³Mary Orne Pickering, p. 337, quoting from an article written by John Pickering for the Cyclopaedia Americana of an unspecified dated.

²⁴Du Ponceau, Mémoire, pp. 46-47.

mentation toward a written language:

. . . he finally discovered that the sounds in the words used by the Cherokee in their daily conversation and their public speeches could be analyzed and classified, and that the thousands of possible words were all formed from varying combinations of hardly more than a hundred distinct syllables. Having thoroughly tested his discovery until satisfied of its correctness, he next proceeded to formulate a symbol for each syllable. For this purpose he made use of a number of characters which he found in an old English spelling book, picking out capitals, lower-case, italics, and figures, and placing them right side up or upside down, without any idea of their sound or significance as used in English. Having thus utilized some thirty-five ready-made characters, to which must be added a dozen or more produced by modification of the same originals, he designed from his own imagination as many more as were necessary to his purpose, making eighty-five in all. The complete syllabary, as first elaborated, would have required some one hundred and fifteen characters, but after much hard study over the hissing sound in its various combinations, he hit upon the expedient of representing the sound by means of a distinct character--the exact equivalent of our letter s--whenever it formed the initial of a syllable.

.

Although in theory the written Cherokee word has one letter for each syllable, the rule does not always hold good in practice, owing to the frequent elision of vowel sounds. . . . There are also, as in other languages, a number of minute sound variations not indicated in the written word, so that it is necessary to have heard the language spoken in order to read with correct pronunciation. The old Upper [Wester] dialect is the standard to which the alphabet has been adapted. There is no provision for the r of the Lower [Eastern] or the sh of the Middle dialect, each speaker usually making his own dialectic change in the reading. The letters of a word are not connected, and there is no difference between the written and the printed character.²⁵

²⁵Mooney, "Myths of the Cherokee," pp. 219, 220.

PLATE XII

BUREAU OF AMERICAN ETHNOLOGY

NINETEENTH ANNUAL REPORT, PL. V

Cherokee Alphabet.

D _u	R _e	T _i	Ꭰ _o	C _u	i _r
S _{ga} O _{ka}	F _{ge}	Y _{gi}	A _{gu}	J _{gu}	E _{gv}
Ꭰ _{lia}	P _{ho}	.J _{lu}	F _{ho}	F _{lu}	Ꭰ _{lv}
W _{lu}	C _{ho}	P _h	G _{to}	M _{lu}	A _{lv}
S _{mu}	U _{me}	H _{mi}	Ꭰ _{me}	Y _{mu}	
O _{na} L _{thud} G _{uadi}	.A _{ne}	h _{ni}	Z _{no}	A _{nu}	O _{nv}
T _{qua}	Ꭰ _{que}	P _{qui}	V _{quo}	Ꭰ _{quu}	E _{quv}
U _{sa} Ꭰ _s	A _{se}	B _{si}	Ꭰ _{so}	E _{su}	R _{sv}
L _{du} W _{lu}	S _{de} T _{te}	.J _{di} J _{ti}	V _{do}	S _{du}	Ꭰ _{dv}
Ꭰ _{lla} f _{ida}	L _{de}	C _{di}	J _{do}	P _{du}	P _{lv}
G _{tsa}	T _{lse}	h _{tsi}	K _{tsu}	J _{tsu}	C _{tsv}
G _{na}	Ꭰ _{nr}	O _{ni}	C _{no}	J _{nu}	G _{wv}
Ꭰ _{ya}	B _{yr}	J _{yi}	h _{yo}	G _{yu}	B _{rv}

Sounds represented by Vowels.

a as *a* in *father*, or short as *a* in *civil* *o*, as *aw* in *law*, or short as *o* in *odd*
e, as *e* in *hate*, or short as *e* in *met* *u* as *oo* in *foot*, or short as *u* in *put*
i, as *i* in *pie*, or short as *i* in *pit* *y*, as *y* in *but*, unsalized

Consonant Sounds

g nearly as in English, but approaching to *k*; *d* nearly as in English but approaching to *t*; *h* & *ts* nearly as in English. Syllables beginning with *g* except *S* have sometimes the power of *k*; *A*, *S*, & *u* are sometimes sounded *to*, *tu*, *tu*; and Syllables written with *tl* except *li* sometimes vary to *dl*.

Cherokee Speech Sounds According
to Sequoyah

It will be well at this point to consider briefly the sounds of the language as Sequoyah conceived them and for which he devised his syllabary.

Phonemically speaking, Cherokee has, according to Sequoyah's observations, a system of six vowels, but five of these have "short" values. These vowels are:

1. [a], with a short value of (probably) [æ] or (possibly) [ɛ].
2. [e] (or [eɪ]), with a short value of [ɛ].
3. [i], with a short value of [ɪ].
4. [o], with a short value of [ʊ].
5. [u], with a short value of [u].
6. [ʌ].

The consonants of Cherokee, according to Sequoyah's observations, are:

1. [g], "nearly as in English, but approaching to k."²⁶
2. [k] (although [g] and [k] apparently are somewhat substitutable, Sequoyah gives a separate symbol for [g_a] and [k_a]).
3. [d], "nearly as in English, but approaching to t."²⁶
4. [t] (here again, despite an apparent frequent interchange of these two stops, Sequoyah gives separate symbols for [d_a] and [t_a], for [d_e] and [t_e], and for [d_i] and [t_i]).
5. [s] (for which a separate symbol is used, despite the fact that it is not a syllable).
6. [v].
7. [w].
8. [h].
9. [l].
10. [m].
11. [n].

The following affricates or significant consonant clusters, according to Sequoyah's observations, occur:

²⁶See Plate XII, p. 257.

1. [ts].
2. [dl].
3. [tl] (although [dl] and [tl] are frequently
interchanged).
4. [kw].
5. [hn].

These consonants do not occur: [b], [p], [ð], [θ], [f], [z], [ʒ], [ʃ], [ʌ], [j], [r], and [ŋ], and the affricates [tʃ] and [dʒ]. It should be noted that [r], "a rolling r," according to Mooney, and [ʃ] occur in dialects other than Sequoyah's. Mooney refers to an aspirate [l] rather than [tl]. It is probable that [ŋ] occurs as a positional variant of [n] in juncture and that various consonants have non-significant voicing.

A comparison of the sounds of Cherokee as represented by Sequoyah and as represented by Pickering is inevitable. Such a comparison, in tabular form, follows.

The vowel sounds:

according to Sequoyah	according to Pickering
1. <u>a</u> , as in <u>father</u> ([a]).	<u>a</u> , as in <u>ah</u> ([a]).
2. <u>a</u> , as in <u>rival</u> ([e] or [e]).	<u>a</u> , as in the first syllable of <u>aha</u> ([e]).
3. <u>e</u> , as <u>a</u> in <u>hate</u> ([e] or [ei]).	<u>e</u> , like <u>a</u> in <u>made</u> ([ei]).
4. <u>e</u> , as in <u>met</u> ([ε]).	<u>e</u> , as in <u>met</u> ([ε]).
5. <u>i</u> , as in <u>pique</u> ([i]).	<u>i</u> , as in <u>antique</u> ([i]).
6. <u>i</u> , as in <u>pit</u> ([i]).	<u>i</u> , as in <u>antick</u> ([i]).
7. <u>o</u> , as <u>aw</u> in <u>law</u> ([ɔ]).	<u>a</u> , as in <u>all</u> ([ɔ]).
8. <u>o</u> , as in <u>not</u> ([ɒ]).	not definitely represented, see remarks below.
9. <u>u</u> , as <u>oo</u> in <u>fool</u> ([u]).	<u>u</u> , as <u>oo</u> in <u>pool</u> ([u]).
10. <u>u</u> , as in <u>pull</u> ([u]).	<u>u</u> , as in <u>bull</u> ([u]).
11. <u>u</u> , as in <u>but</u> , nasalized ([ʌ]).	<u>u</u> , nasal, as in <u>uncle</u> ([ʌ]).

Remarks: It will be seen that all of Sequoyah's vowels are represented by Pickering, with the exception of no. 8, above. This sound, [ɒ], may be what Pickering intends by "short (a) as in although."

Pickering has these additional vowel sounds:

1. o, as in tone ([ou]).
2. o, as in immolate ([o]).
3. u, as in dumb ([ʌ]).
4. u, as in undo ([ʌ~], apparently the "short" value of no. 3, above).

Pickering indicates the following diphthongs, not represented in Sequoyah's syllabary: [aɪ], [au], and [ju].

The consonant sounds:

according to Sequoyah	according to Pickering
1. [g] and [k], with some interchange of the two.	[g] and [k], with " <u>flat</u> and <u>sharp</u> modifications" (see Plate XI, p. 250).
2. [d] and [t], with frequent interchange.	[d] and [t], with some confusion indicated (see Plate XI).
3. [s].	[s], apparent meaning of " <u>s</u> as in English at the beginning of words."
4. [v].	"not found in <u>Lower</u> Cherokee. . . ."
5. [w].	[w].
6. [h].	[h], but "a stronger aspiration than in English."
7. [l].	[l].
8. [m].	[m].
9. [n].	[n].
10. [ts].	[ts].
11. [dl] and [tl].	Not indicated by Pickering.
12. [kw].	[kw].
13. [hn].	Not indicated.

Remarks: It will be noted that Pickering has no symbol for the consonant clusters [dl], [tl], and [hn]. It may well be that since he has symbols for the component parts of each cluster, he does not feel it necessary to increase his alphabet and thus introduce more symbols foreign to the English alphabet, although it must be noted that he does represent other consonant clusters. Pickering adds one consonant that Sequoyah does not include as a Cherokee speech sound: [j]. However, it is evident that there is basic agreement. It should be noted, also, that Pickering uses the apostrophe (see Plate X, p. 249) "to denote a momentary suspension of the voice, in uttering a word . . ." This is probably

an attempt to represent the glottal stop, and, in this respect, Pickering is more accurate than Sequoyah. One notes also that Pickering lists four consonant clusters not included in Sequoyah's syllabary: gs [gz], ks [ks], "hw like wh in when, strongly aspirated," and "wt or w't, the whistled sound common in other Indian dialects." With respect to the "whistled w," one wonders if this had not become a kind of phonetic obsession with Du Ponceau and Pickering, a kind of personal discovery and possession, which in reality was no more than [w] or [ʍ] before a consonant.

Immediate Effects of the Syllabary

It is easy to see by the preceding and by reference to Plate XII that Sequoyah had only to assign distinct characters to each of the consonant sounds to arrive at an alphabet of about sixteen characters. However, the syllabary served his purpose better. A syllabic orthography for Cherokee is not only possible but highly efficient because of the absence of numerous consonant clusters. Writers seem to agree that Indian children, who would take one or more years to learn English reading and writing, could master the syllabary in a matter of days. There are no puzzles of orthography. If one could speak Cherokee and if one knew the values of the characters of the syllabary, then one could write Cherokee. The effect was to make a nation literate practically overnight. Mooney writes:

The invention of the alphabet had an immediate and wonderful effect on Cherokee development. On account of the remarkable adaptation of the syllabary to the language, it was only necessary to learn the characters to be able to read at once. No school-houses were built and no teachers hired, but the whole Nation became an academy for the study of the system. . . .²⁷

²⁷Mooney, "Myths of the Cherokee," p. 110.

This view is given, in more or less restrained terms, by every writer on the subject. For example, Pickering writes:

The circumstance of the alphabet being syllabic, and the number of syllables so small, is the greatest reason why the task of learning to read the Cherokee language is so vastly easier than that of learning to read English. An active Cherokee boy may learn to read his own language in a day, and not more than two or three days are ordinarily requisite. To read is only to repeat successively the names of the several letters; when a boy has learned his alphabet, he can read his language.²⁸

A modern author reduces the time of learning to a few hours:

By the use of his [Sequoyah's] system, which was really a syllabary, expressing within its eighty-five characters all the primary sounds in the Cherokee language, an illiterate Indian could learn to read within a few hours. Following its adoption hundreds of previously ignorant Cherokee began reading and even writing in their native tongue.²⁹

Du Ponceau writes:

Ce syllabaire fut adopté par sa nation. Les missionnaires l'apprirent et l'enseignèrent à la jeunesse, qui fit des progrès rapides. Les hommes faits voulurent aussi savoir lire et écrire. Bientôt on imprima une gazette en langue cherokee intitulée le Phénix; les lois et les ordonnances furent publiées en cette langue. . . .³⁰

It is true that the syllabary was adopted by the Cherokee Nation and that the "Phoenix" was ultimately issued.

²⁸Mary Orne Pickering, pp. 337-338, quoting from an article by John Pickering in the Cyclopaedia Americana of an unspecified date.

²⁹Chapman J. Milling, Red Carolinians (Chapel Hill: The University of North Carolina Press, 1940), pp. 342-343.

³⁰Du Ponceau, op. cit., p. 46.

But this was not without considerable opposition at various points. Naturally, Sequoyah was ridiculed and opposed by his own people during his work on the syllabary. Also, after it had been perfected, he found difficulty in getting it accepted. Finally, he made a dramatic demonstration of the practicability of his alphabet. When he went to the Arkansas Cherokees, he taught a few persons his syllabary, had one of them write a letter to some friends in the eastern branch of the Nation, and then took the letter back east with him. This and similar demonstrations served their purpose. The syllabary was adopted in the East, and, in 1822, Sequoyah returned to Arkansas. About this time, according to Foreman, the American Board for Foreign Missions recorded that the eastern and western Cherokee were maintaining correspondence in Sequoyah's syllabary.³¹ A short time previously, the translation of the New Testament into Cherokee had been commenced by David Brown, the same Cherokee who had aided Pickering, using, one must presume, Pickering's orthography. Thus, with the translation of the four Gospels and the increasing desire of the Cherokees for printed material in their own language, the time was more than ripe for the emergence of Cherokee as a printed language.

The missionaries, once convinced of the practicality and inevitability of Sequoyah's syllabary, were its most effective promulgators. It was through the efforts of a young missionary, Samuel A. Worcester, that Sequoyah's

³¹Foreman, p. 7.

syllabary finally reached the printing press. Worcester arrived in the Cherokee Nation of the East in the fall of 1825. Sequoyah had already gone to his western brethren. Worcester not only brought to the attention of the American Board of Commissioners for Foreign Missions the possibility of printing in the Sequoyan characters, but was also instrumental in securing the approval of leading Cherokees for the casting of type. The type was cast in Boston and, early in 1827, a press was secured and made ready for shipment in November. It finally reached New Echota, the capitol of the Cherokee Nation, in Georgia, in January, 1828.³²

Actually, the first printing made in the Cherokee language was in December, 1827. This was the publication in the Missionary Herald of Dr. Worcester's translation of the first five verses of the book of Genesis.³³ The first issue of the Cherokee Phoenix, a four-page newspaper, appeared on February 21, 1828. The paper was printed part in English and part in Sequoyah's characters. Elias Boudinot, a young schoolteacher of Cherokee blood, was the first editor. He was succeeded on August 1, 1832, by another Cherokee, Elijay Hicks. Early in 1829, the name of the paper had become the Cherokee Phoenix and Indians' Advocate. The

³²Ibid., pp. 13-14.

³³Ibid., p. 14.

paper was suspended from regular publication in 1832, when it was seized by the authorities of Georgia. The pressure of the whites upon the frontiers of the Eastern Cherokee had been drastically increased by the discovery of gold near the present site of Dahlonega, Georgia, and "after a few years of fruitless struggle the nation bowed to the inevitable . . ." ³⁴ The newspaper thereafter appeared irregularly, ceasing publication altogether in 1834. Under the terms of the treaty of New Echota, December 29, 1835, the Nation sold all its lands not previously given up and agreed to move west into lands to be set aside for the Cherokee.

One might note in passing that Sequoyah, with respect to material rewards, fared no better than is customary with public benefactors. A treaty of 1828 between the Cherokee Nation and the United States contained, among other provisions, a promise to George Guess of \$500 as recognition of the benefits to his people through his invention of the Cherokee syllabary. There was also the provision of \$1000 to the Cherokees to set up a printing press in the west. The last-named provision was never carried out. Foreman (p. 17) details the reward that Sequoyah received: ". . . after nearly six years Sequoyah had received only \$150 in cash, 22 salt kettles of the value of \$150, three saddles and a small quantity of merchandise, in all amounting to \$389.75."

The demise of the Cherokee Phoenix and Indians' Advocate did not mean the end of the use of Sequoyah's syllabary,

³⁴Swanton, p. 222.

as it continued to be used by the missionaries, especially, for some time. The Baptist Mission Press was in operation at Cherokee, Oklahoma, as late as mid-nineteenth century. Recent scholarly notation of Cherokee has employed phonetic notation and various modifications of phonemic notation.³⁵ Sequoyah's syllabary also had an influence on the orthography of other Indian languages. Although it was never used for the recording of American Indian languages other than Cherokee, it undoubtedly helped to inspire later syllabaries for Cree, Timmé, Ojibwa, Muskogee, Creek, Choctaw, Eskimo, Sauk, Fox, Kickapoo, and Winnebago.

Evaluations

Sequoyah's syllabary may be evaluated from two standpoints: as to its value as a method of writing per se, and as to its value to the people who used it. Considered in either light, it stands high. Pickering, who more than anyone, would have reason to view Sequoyah's syllabary with some wryness, thought it well suited to the language it expressed. The Cherokee Grammar was dear to Pickering's heart. Moreover, it had cost him much time and labor, and Sequoyah's invention made Pickering's grammar only a literary curiosity. It is not surprising, therefore, that one can almost sense the scholarly Christian gentleman swallowing

³⁵See especially, Ernest Bender and Zellig S. Harris, "The Phonemes of North Carolina Cherokee," International Journal of American Linguistics, Vol. 12, 1946, pp. 14-21, and Vol. 15, 1949, pp. 223-228.

his disappointment in the following, taken from a letter dated November 27, 1827, to his friend Baron Humboldt.

A gazette or newspaper in the Cherokee and English languages is about to be published in the Cherokee nation. The types are now making in this city (Boston) for a new set of characters, made by a native Cherokee. I should inform you that this native, whose name is Guest, and who is called by his countrymen "The Philosopher," was not satisfied with the alphabet of letters or single sounds which we white people had prepared for him in the sheets of a Cherokee Grammar formerly sent to you, but he thought fit to devise a new syllabic alphabet, which is quite contrary to our notion of a useful alphabetic system. He has by his own analysis reduced all the syllables of their language to about eighty-three, and his alphabet accordingly consists of eighty-three arbitrary characters, instead of sixteen or eighteen Roman letters. He has, however, taken the Roman letters as the basis, and has added to them some little mark, or has distorted their shapes, in order to suit his purpose. This is much to be regretted as respects the facility of communication between these Indians and the white people; and the plan seems to us to be very unphilosophical. But, strange as it may appear, the fact is that either by force of their national pride (for which we cannot blame them), or by reason of the greater convenience of their syllabic alphabet, the use of the new characters has spread among them in the most inconceivable manner, and they learn with great rapidity, both the old people and the young. So strong is their partiality for this national alphabet that our missionaries have been obliged to yield to the impulse, and consent to print their books in the future in the new characters. . . .³⁶

Pickering's friend and colleague, Peter Du Ponceau, did not believe Sequoyah's syllabary to be either "unphilosophical" nor "contrary to our notion of a useful alphabetic system." He recognized that certain peculiar features of a spoken language may lead inevitably to corresponding features in the written language. Writing of orthographic systems, he

³⁶Mary Orne Pickering, pp. 352-353.

he appears to believe that, in all probability, the system naturally developed will be the system best suited for a given language; and that ". . . il n'est aucun de ces systèmes qui, abstractivement parlant, ait droit à la préférence sur les autres. . . ." He goes on to cite what he considers a striking example which has happened in his day, concerning "un sauvage Cheroki, nommé Sequoyah, connue aussi sous le nom de George Guess" Du Ponceau writes:

Sequoyah n'a point été un imitateur. Il a suivi la route que la nature lui a indiquée. Il s'était fait expliquer les principes de notre système élémentaire et il eût pu l'adopter. Il préféra consulter le génie de sa langue, et c'est en cela qu'il montre la supériorité de son intelligence. Il n'a point copié le modèle qui lui a été présenté, il a inventé. Quel est l'Européen, rempli de l'idée de la supériorité de notre alphabet, qui eût imaginé la même chose? Depuis qu'il existe des missionnaires en Asie, en Afrique et en Amérique, il n'y en a pas un qui ait pensé à donner aux peuples appelés barbares un système d'écriture analogue à leurs idiomes; ils y ont adapté comme ils on pu nos lettres romaines, chacun suivant la prononciation de sa propre langue, et ils one cru avoir fait tout ce qu'il était possible de faire. . . .³⁷

It is true, of course, that Sequoyah's syllabary did not make it particularly easy for white men to read or write in the language--"the facility of communication," to use Pickering's word, "between these Indians and the white people" was not enhanced. However, this was hardly the purpose. And for Sequoyah's purpose, the syllabary was undoubtedly superior to the system used by Pickering, or to a true alphabet of sixteen characters, as could easily have

³⁷Du Ponceau, op. cit., p. 45.

been devised. As Gallatin writes:

. . . In practice . . . and as applied to his own language, the superiority of Guess's alphabet is manifest, and has been fully proved by experience. You must indeed learn and remember eighty-five characters instead of twenty-five [sic]. But this once accomplished, the education of the pupil is completed, he can read, and he is perfect in his orthography without making it the subject of a distinct study. . . .³⁸

From a person closer than most whites to the actual use of the Cherokee ayllabary comes the following comment. Rev. S. A. Worcester, who was one of the early advocates and among the first to use the syllabary, is writing in the Missionary Herald, July, 1827.

I am not insensible of the advantages which Mr. Pickering's alphabet, in common with that in use at the Sandwich Islands, possesses above the English, by being so much more nearly a perfect alphabet. Nor do I suppose that more than half the time would be required for a Cherokee child to learn to read his own language in that alphabet which is required for an English child to learn his. But in point of simplicity, Guess has still the preeminence; and in no language probably can the art of reading be acquired with nearly the same facility.

Long Range Effects of the Syllabary

The effects of the syllabary on the Cherokee Nation, as well as being immediate, has lasted until the present day. The history of North American Indian tribes has been a monotonously tragic one of disaster, dispersal, extinction or near-extinction, and virtual loss of tribal identity.

³⁸Gallatin, "A Synopsis of the Indian Tribes of North America," Transactions and Collections of the American Antiquarian Society, Vol. II (Cambridge: University Press, 1836), p. 93.

It has been only in comparatively recent times that an enlightened policy of the United States government has resulted in some reversal of this trend. Nevertheless, the Cherokee Nation has retained a physical and moral strength that can be attributed in part to the unifying force of Sequoyah's syllabary. This syllabary has made possible a continuity in the existence of the Cherokee people, it has enabled them to preserve more readily the culture of the Cherokee.

During 1837 and 1838, James Mooney, in the employment of the Bureau of Ethnology, collected Cherokee secret formulas from the North Carolina Cherokees. These formulas were written in the characters invented by Sequoyah. They cover every phase of the life of the Indian--medicine, love, hunting, witchcraft and religion, crops, play, etc. Mooney acknowledges the importance of Sequoyah's syllabary in the culture of the Cherokee Nation:

These formulas had been handed down orally from a remote antiquity until the early part of the present century, when the invention of the Cherokee syllabary enabled the priests of the tribe to put them into writing. The same invention made it possible for their rivals, the missionaries, to give to the Indians the Bible in their own language, so that the opposing forces of Christianity and shamanism alike profited by the genius of Sikwâya. . . .

Such an exposition of the aboriginal religion could be obtained from no other tribe in North America, for the simple reason that no other tribe has an alphabet of its own in which to record its sacred lore. . . .³⁹

In another connection, Mooney pays high tribute to Sequoyah's

³⁹Mooney, "Sacred Formulas of the Cherokees," pp. 308-309.

syllabary:

In the various schemes of symbolic thought representation, from the simple pictograph of the primitive man to the finished alphabet of the civilized nations, our own system, although not yet perfect, stands at the head of the list, the result of three thousand years of development by Egyptian, Phoenician, and Greek. Sequoyah's syllabary, the unaided work of an uneducated Indian, reared amid semisavage surroundings, stands second.⁴⁰

Sequoyah, George Guess, the "American Cadmus," as many writers have called him, died in August, 1843, in Sanfernando, Mexico. He had wandered to that point after much searching for a tribe of Cherokees, believed to be in Texas or Mexico. Foreman, his meticulous biographer, pays this tribute:

Most significant and lasting memorial to the immortal Sequoyah is the learning and culture of a fine body of American, the Cherokee people. Their advanced position in society directly traceable to Sequoyah's works, exercised a beneficent influence on other tribes of Indians and contributed substantially to the civilization of the new state [Oklahoma] of which they are a part.⁴¹

⁴⁰Mooney, "Myths of the Cherokee," p. 219.

⁴¹Foreman, p. 81.

CHAPTER V

THE LEXICOGRAPHERS

Perhaps no phase of the development of American English has received so much attention, in historical consideration, as the activities of the dictionary-makers. This is only natural, for the modern dictionary has come to be a kind of last court-of-appeals in such diverse matters as newspaper word-building contests and inter-collegiate debates on affairs of state. The dictionary has also become, for most people, the final authority in matters of pronunciation--although it has not always been so.

Since so much has already been written about dictionaries and their makers, it is necessary to define the limits of the present chapter. A detailed history of lexicography in the United States will not be attempted herein, nor will a history of the development of American English be essayed through a survey of the activities of the dictionary-makers. Here, the focal point is not primarily lexical, nor is the rôle of the lexicographer as grammarian considered in any detail. The interest here in the dictionary-makers is primarily from a phonetician's viewpoint. And here again limits must be defined. Space forbids a detailed consideration of the effects of dictionaries upon pronunciation or that of actual pronunciation upon the dicta of the lexi-

cographers. The development of American English has been admirably covered in such books as George Philip Krapp's two-volume The English Language in America and H. L. Mencken's imposing The American Language. Suffice it to say, with respect to the relation of dictionaries and pronunciation, that the early lexicographers were strongly opinionated in matters of pronunciation. Their opinions were reflected both in their own teaching manuals of various sorts and in the works of many teachers, writers of grammars, and other dictionary-makers who were in a position to establish the standards of pronunciation. On the other hand, the current run of dictionaries tends to lean heavily in the direction of what is already popularly established, with respect to pronunciation. Thus, the modern dictionary is by no means prescriptive to the same degree as were the earlier dictionaries. In this chapter, the principal concern is with the systems evolved by the dictionary-makers to indicate pronunciation and with the concepts held by these lexicographers with respect to the speech sounds of American English. Obviously, however, matters of orthography, lexicography, definition, and etymology cannot be completely ignored.

In the light of the limitations set up for this chapter, the immediately following pages are, in a sense, a deviation, for two works whose importance is mainly lexical are examined therein. These works are John Pickering's Vocabulary and a Glossary by David Humphreys. They have a historical importance in themselves. More importantly,

as this chapter is concerned with them, these two works are necessary background for a consideration of later contributions, especially those of Noah Webster. This is especially true of Pickering's Vocabulary. The following discussion, then, reveals the background against which the early American dictionaries had their beginning and development.

David Humphreys' Glossary, John
Pickering's Vocabulary

John Pickering's early work, A Vocabulary, or Collection of Words and Phrases which have been supposed to be peculiar to the United States of America, has previously been mentioned in the second chapter of this study. Mencken speaks of it as "the pioneer dictionary of Americanisms. . . ."¹ As a matter of fact, it was preceded by a glossary of Americanisms compiled by David Humphreys, one of the group of writers known as the "Connecticut Wits" or the "Hartford Wits." Humphreys was a native of Connecticut and a graduate of Yale. During the Revolutionary War he had given valuable military service to the colonies and, as a consequence, was highly regarded by George Washington. Through Washington's influence, he received an appointment as secretary to the commission appointed to negotiate commercial treaties with foreign nations and went abroad in 1784 in that capacity.

¹H. L. Mencken, The American Language (New York: Alfred A. Knopf, 1919), p. 8.

He went to Portugal in 1790 as the United States' first minister to that country. He served later as minister plenipotentiary to Spain. M. M. Mathews, in a brief sketch of Humphreys, writes:

As early as 1786 Humphreys had gained some reputation as a writer. . . . Among his writings there are two dramas, The Widow of Malabar and The Yankey in England. In the back of the last-named play there is a Glossary, "Of words used in a peculiar sense, in this Drama." The word-list dates back to 1815, the year in which The Yankey in England was published. [Actually, of course, the words and expressions in the list must date much beyond 1815.]

This Glossary, containing about 275 expressions, has special interest in view of the fact that in writing the play in which the Glossary occurs Humphreys had in mind the delineation of three distinct types of American characters. He explains how the representatives of these types vary from one another because of different educational attainments. In the play General Stuart and Admiral Dixon represent American college-bred men who have attained distinction. Mr. Newman belongs to the middle class, educationally speaking, his schooling having extended only through the grammar school. Doolittle, the "Yankey," represents the third class. What schooling Doolittle received was limited to the free public schools. Humphreys felt that this third type of American character, represented by Doolittle, was little known abroad.²

Doolittle was strictly comic-relief in Humphreys' play, contributing nothing either to the main plot or to the subplot. However, according to Leon Howard, Doolittle "was the most important character in the play and the one most carefully analyzed in the author's Preface. Humphreys exhibited him as a specimen of the 'inhabitants of the interior parts of New-England,' as distinguished by a peculiar idiom and

²M. M. Mathews, The Beginnings of American English (Chicago: The University of Chicago Press, 1931), pp. 56-57.

pronunciation, as well as by a peculiarity of character which was 'made up of contrarieties.' . . ."³ Howard believes that Humphreys accurately represented the "Yankey" dialect and that "Doolittle spoke a much more consistent dialect than had Jonathan in The Contrast." Part of this success, he believes, was a result of Humphreys' long residence abroad, making him "unusually sensitive of 'Yankey peculiarities' in speech." He concludes that ". . . this otherwise undistinguished drama bears witness to Humphreys' success as one of the earliest careful students of the American language."⁴

Humphreys' Glossary has a certain phonological importance because of the fact that the author, through respellings, attempts to indicate the pronunciation of the words which he lists. Lexically, it is much less revealing than Pickering's later Vocabulary. On the other hand, Pickering rarely comments on pronunciation and is content, in practically all cases, to use conventional spellings. Humphreys' word-list is particularly revealing when considered in relation to such studies as Orbeck's Early New England Pronunciation and in relation to current survivals of early pronunciations as disclosed by the findings of the New England Dialect Atlas. This Glossary is short enough that it

³Leon Howard, The Connecticut Wits (Chicago: The University of Chicago Press, 1943), p. 264.

⁴Ibid., p. 265.

can be given here in entirety and rare enough to justify such extensive reproduction. Following, then, is David Humphreys' Glossary "Of words used in a peculiar sense, in this Drama; or pronounced with an accent or emphasis in certain districts, different from the modes generally followed by the inhabitants of the United States; including new-coined American, obsolete English, and low words in general."⁵

Humphreys' Glossary

A

Abord, for, on board.
Afeard, afraid.
A fore, before.
Agin, again.
Ant I, probably from, and I, used however rather as a negative.
A-nuff, enough.
Argufying, arguing.
Arter, after.
Atarnal, eternal.
Atarnity, eternity.
Awful, ugly.
Ax, ask.

B

Ban't, Ben't, am, or is, or are not.
Becaise, because.
Berrying, burying.
Beleve, believe.
Bile, boil.
Bin, been.
Bissy, busy.
Bissnes, business.
Blud, blood.
Boggling, difficulty, delaying, unnecessarily hesitating.

⁵David Humphreys, The Yankey in England (Connecticut: 1815), p. 103. The Glossary is printed following the play itself, pp. 104-111.

Boost, raise up, lift up, exalt.

Borrered, borrowed.

Boot, to boot, something given into the bargain.

Bred-stuffs, all kinds of flour, meal, farinaceous substances, grain. In England, corn is used as the generic term. In America, corn is always intended to apply to maize--otherwise called Indian corn--the most abundant and useful vegetable production in the United States, from the extreme northern to the southern boundary.

Briled, broiled.

Brussels, bristles.

Buty, beauty.

C

Calculate, used frequently in an improper sense, as reckon, guess.

Captivated, captured, taken prisoner.

Cent, 1-100 part of a dollar, a copper coin of the United States.

Clever, relating to moral character--not skilfulness or dexterity.

Chaffering, holding a long talk.

Chaunce, chance.

Chirk, churk, brisk, lively, in good spirits.

Chares, chores, trifling employments at or near home.

Cleverly, very well.

Close, clothes.

Clus, close.

Concerning, concerning.

Cood, could.

Copper, formerly current money of the value of a halfpenny in England.

Count, (in provincial use,) estimate, reckon.

Cum, came.

Cumfort, comfort.

Curridge, courage.

Critturs, creatures.

Curious, extraordinary.

Cuss, curse.

Cussed, cursed.

Cute, acute, smart, sharp.

D

Darned, old English.

Darter, daughter.

Dasent, dare not.

Despud, desperate.

Despudly, desperately.

Dilly dallying, wasting time for little purpose.

Divil, devil.

Druv, driven.

Dreadful, used often as, very, excessively even as
it regards beauty, goodness, &c.
Du, do.
Dubble, double.
Duds, old clothes.
Dum, dumb.
Dumpish, heavy, silly.
Du pry tel, (Exclamation pprobably from) do pray tell.
Duse, does.

E

Eend, end.
Enny, any.
Enny-wheres, any where.
E'en-a-most, almost.
Extrumperry, extempore.

F

Fairce, farce, fierce.
Fairm, farm, firm.
Farmament, firmament.
Fleering, Flouting, terms of contempt, vulgar.
Flip, liquor made of rum, beer and sugar, with a hot
poker put into the mug to stir it.
Flustration, extreme agitation.
Fokes, folks.
Forgit, forget.
Forrerd, forward.
Fort, fault.
Fortin, fortune.
Fortinc, fortizno, for aught I know.
Forzino, far as I know.
F'rall that, for all that, or notwithstanding, &c.
Friggit, frigate.
Frolics, country festival sports.
Frind, friend.
Furder, farther.

G

Gals, girls.
Gawkey, awkward.
Gimcracks, (nice bagatelles) curious trifles.
Gin, given, gave.
Gineral, Gin'ral, General.
Gineration, generation.
Glib, smooth, easy.
Gownd, gown.
Granny, grandmother.
Guess, instead of being applied to things conjectured,
misapplied to such as are past, present--certain;
believe, think.

Gum, foolish talk, nonsense.
Gumption, sense, understanding, intellect.

H

Han't, havn't, have not.
Hansum, handsome.
Harty, well.
Hector, bullied, insulted by domineering.
Her'n, her own, hers.
Heerd, heard.
Hild, held.
Hoss, horse.
Huffy, ill-natured.
Hull, whole.
Hum, home.
Humbly, homely.

I

Ile, oil.
Improve, employ, occupy.
Inyons, onions.

J

Jeerings, contemptuous sneers.
Jest, just.
Jeesting, jesting.
Jiffing, or jiffin, instantaneously.
Jumping jings, jingoes, expletives indicative of confirmation.
Jurk, jerk.

K

Keow, cow.
Ketch, catch.
Kill-dried, (the preparation of the meal of maize or Indian corn for exportation,) kiln-dried.
Kittle, kettle.
Kiver, cover.
Knack, faculty of doing things with facility.
Know'd, knew.

L

Larning, learning.
Leetle, little.
Lengthy, long.
Licker, liquor.
Lines, loins.
Lovyier, lover.
Lug, (very vulgar) bring, bring in, lift, hand.

M

Mad, (not in the usual sense, insane,) to make angry.
Mainly, mostly.
Mannerliness, goodbreeding, good manners.
Marcy, mercy.
Massiful, merciful.
Mayn't, may not.
Meb-be, may be.
Munchings, (low word,) chewing with a mouth full.
Muggy, sultry, close air, very hot.

N

Naborly, neighbourly.
Nation, very extraordinary.
Nationality, attachment to clan or country, belonging to, or fondness for a nation.
Native, (last syllable pronounced long) native.
Neest, nest.
Nice, smart, tidy, spruce.
Nicely, in good health.
Nip, (original American,) pint, half pint bowl.
Notion, Notions, Notional, used frequently, not in the English sense of the words.
Nuther, neither.
Nick-nacks, trifling superfluous articles.

O

O, the Dickens, exclamation.
Obstropulous, obstreperous.
On't, on it, of it.
Ort, ought.
Outlandish, strange, foreign.
Overmatch, superior.
Owny towny, (owny downy, ounty tounty) peculiarly belong to one.

P

Paerils, perils.
Parfect, perfect.
Parson, person.
Peek, Peeking, Peep, to observe slyly and sneak-ingly.
Pertection, protection.
Pertest, protest.
Pestered, very excessively.
Plaguy, as a degree of comparison--very--to enhance the force of the word with which it is connected.
Poke your fun, jeer, pester, plague.
Potecary, Apothecary.

Poorly, miserably, ill.
Prehaps, perhaps.
Presarved, preserved.
Pritty, pretty.
Pluck, heart, courage, spirit.
Put out, disobliged, offended.

Q

Quarte, quart.
Quiddities, trifling niceties, odd behaviour.
Quiddles, disorder in the head, moping disease in horses, dizziness.

R

Railly, really.
Rather, (pronounced narrow on the first syllable) frequently used to diminish or qualify the term to which it is applied, sometimes pronounced Ruth-er.
Reckon, calculate, depend on the fact, sometimes nearly in the sense in which guess is misapplied.
Roiled, disturbed, applied to liquors and temper.
Rubbige, rubbish.
Ruff, rood.

S

Sale, say.
Sabva-da, Sabbath-day.
Saisse, or Sairse, sauce.
Saisy, saucy.
Sarpent, serpent.
Sarvice, service.
Sarvant, servant.
Sartinly, certainly.
Scart, scared.
Scholard, scholar.
Seed, saw.
Sen, since.
Sheep, ship.
Shan'n't, shall not.
Shabby, Shabbily, applied to ill looks or appearance in dress, vulgar.
Shood, should.
Shugar, sugar.
Shute, shoot.
Shure, sure.
Sitch, such.
Slim, slink, used in a peculiar sense.
Snap, to break off short.
Snappish, petulant, easily provoked.

Sneaking, used in a peculiar sense.
Sparked it, (young man keeping company with young women and sitting by the fire after the family has gone to bed,) courting.
Spook, (a word used by the Low Dutch in some parts of America,) apparition, ghost, hobgoblin.
Spose, suppose.
Spry, acute, nimble.
Sperit, spirit.
Spunk, courage.
Staggers, horse-apoplexy, wild conduct, madness.
Stan, stand.
Stickling, hesitating, delaying.
Stiddy, steady.
Strait, straight.
Stur, stir.
Studned, stunned.
Stump, challenge.
Sumwheres, somewhere.
Swags, exclamation.
Swamp it, ridiculous kind of asservation.
Swimmed, swam.
Swound, swoon.
Swap, Swop, exchange.
Suzz! Surs! a corruption from Sirs.

T

Tarmes, terms.
Tarnation, used in a peculiar sense.
Tantrums, Tantarams, do.
Tatterations, do.
Tawking, talking.
Techy, easily irritated, froward.
Telled, told.
Toddy, (beverage) rum, sugar, and water mixed together.
To-rights, immediately, instantly.
Trim, habiliments, dress.
Trade, physic, medicine.
Truck, to barter, exchange one thing for another.
Trampoosing, traversing.
Tuff, tough.
Twang, nasal pronunciation.
Twistical, tortuous, not above-board, not quite normal.
Twitted, reproached.

U

Underlin, an inferior animal.
Unpossible, impossible.
Uppish, (vulgarism) proud, arrogant.

V

Vacarme, (French) to make a noise, racket, scold.
Van, exclamation.
Vaggers, do.
Vartuous, virtuous.
Varmount, Vermont.
Varses, verses.
Vittles, victuals.
Venture, offer a bet, lay a wager, stake.
Vouch, vouch it, vouch on't, a species of assevera-
tion.
Vow, do.
Vum, do.
Vumpers, do.
Viges, voyages.

W

Wage, or wager, to bet.
Wood, would.

Y

Yawping, (probably from yelping).
Yit, yet.
Your'n, your own, yours.

A casual comparison of the probable pronunciations which Humphreys indicates in this Glossary with the pronunciations which Orbeck deduces from the seventeenth century records of Plymouth, Watertown, Dedham and Groton reveals that many of the early New England pronunciations must have survived into the speech of the early nineteenth century "Yankey." Orbeck notes, for example, the use of [e], possibly [eɪ], in words spelled with ea and in such words as receive, decent, etc.⁶ Perhaps Humphreys' beleve, railly, for believe, really, represent the same sound. A comparison with modern New England

⁶ Anders Orbeck, Early New England Pronunciation, As Reflected in some Seventeenth Century Town Records of Eastern Massachusetts (Ann Arbor: George Wahr, 1927), pp. 34-39.

pronunciation is also invited by Humphreys' clus for close, hull for whole, hum for home, humbly for homely. This is undoubtedly the so-called "New England short-o," which, although Kurath indicates is losing ground,⁷ is still common in rural New England. The Atlas transcription for this vowel, [e], indicates an unrounded [o]. Trager and Smith, perhaps more accurately, use [ʌ̣].⁸ Several words in Humphreys' Glossary immediately suggest pronunciations indicated by Franklin in his "Reformed Alphabet." One of these is frind for friend; it will be remembered that Franklin transcribes this word with "i"([i]). The probability of sonant l in words where l is now silent is indicated by Humphreys in cood for could, fokes for folks, shood for should, tawking for talking, wood for would. Orbeck suggests the possibility of sonant l in should and would,⁹ and it will be remembered that Franklin indicates l in words similar to the above. Undoubtedly, however, many of Humphreys' spellings carry no phonetic implications. A good many of them are probably included merely for their pseudo-phonetic or illiterate spellings, without any change of

⁷Hans Kurath, Handbook of the Linguistic Geography of New England (Providence: Brown University, 1939), p. 3.

⁸George L. Trager and Henry Lee Smith, Jr., An Outline of English Structure (Norman, Oklahoma: Battanburg Press, 1951), p. 14. The vowel is described as "mid back rounded lax, somewhat centered . . ." This is not precisely [ʌ], but very close to it; the authors use their own symbol, "[ʌ̣]."

⁹Orbeck, pp. 46-47.

pronunciation being indicated. All in all, however, this short list is rich both in lexical and phonetic implications. It was no doubt drawn upon by later writers on Americanisms. Mathews makes this observation:

. . . Pickering may not have seen The Yankey in England in time to utilize it for his Vocabulary published in 1816, but Bartlett in his Dictionary of Americanisms included some words which he got from Humphreys' play. In the OED the earliest example of the use of the word twistical is taken from The Yankey in England.¹⁰

The Vocabulary

Consideration turns now to Pickering's Vocabulary, ". . . perhaps the earliest serious attempt at a scientific study of American English."¹¹ This is primarily a lexically-slanted work, but it does give an indication of Pickering's attitudes; and, in some comments, there are observations of phonological significance. Pickering's attitude is somewhat indicated by the fact that the Vocabulary is concerned with "Americanisms and expressions of doubtful authority," as Pickering puts it in his "Preface" (p. iii). He is exceedingly sensitive to what he calls "deviations from the pure English idiom. . . ." He refers continually to English usage and English authority. Mencken implies that Pickering was a courageous rebel against the attempt to stagnate the

¹¹Franklin Edgerton, "Notes on Early American Work in Linguistics," Proceedings of the American Philosophical Society, Vol. 87 (Philadelphia: The American Philosophical Society, 1944), p. 27.

American brand of English by keeping it firmly tied to British authority.¹² This implication is far from the truth. Pickering was a conservative with respect to English usage and compiled his Vocabulary in order to show wherein American speech was deviating from the accepted and desirable standards--those set by educated British usage. Webster took, in the words of Mencken (loc. cit.), "a formidable fling" at the Vocabulary because, although conservative in every thing else, he was in matters linguistic a radical. Furthermore, Webster, with justice, felt that he had been personally attacked in Pickering's "Preface" (pp. vi-vii). Here Pickering writes: "In this country, as is the case in England, we have thirsty reformers and presumptuous sciolists, who would unsettle the whole of our admirable language, for the purpose of making it conform to their whimsical notions of propriety. . . ." Pickering's point of view is stated in the following words (p. 9): "The preservation of the English language in its purity throughout the United States is an object deserving the attention of every American, who is a friend to the literature and science of his country." However, that his mind was not closed is shown by his insistence (pp. v-vi) that he is "not making a dictionary of our language, but a glossary of provincialisms . . . and, that it seemed useful to insert all words, the legitimacy of which had been

¹²Mencken, p. 8.

questioned; in order that their claim to a place in the language might be discussed and settled."¹³

Pickering states the desirability of Americans writing so as to be understood by Englishmen and the advantages of the two countries continuing to have a common language. He proceeds (pp. 14-18) to an examination of the extent to which American English has deviated from purity and to establish the basic justification of his Vocabulary. What evidence is there, he asks, "that the English language is not spoken and written in America, with the same degree of purity that is to be found in the writers and orators of England?" His answer to this rhetorical question moves on to a summation which provides the raison d'être for his Vocabulary.

Upon an impartial consideration of the subject, therefore, it seems impossible to resist the conclusion, that, although the language of the United States has perhaps, changed less than might have been expected, when we consider how many years have elapsed since our ancestors brought it from England; yet it has in so many instances departed from the English standard, that our scholars should lose not time in endeavouring to restore it to its purity, and to prevent future corruption.

This, it is obvious, is to be effected, in the first place, by careful noting every unauthorized word and phrase . . . As a general rule also, we should undoubtedly avoid all those words which are noticed by English authors of reputation, as expressions with which they are unacquainted; for although we might produce some English authority for

¹³For a detailed study of Pickering's sources for this Vocabulary, see Allen Walker Read, "The Collections for Pickering's 'Vocabulary,'" American Speech, Vol. XXII, December 1947, pp. 271-286.

such words, yet the very circumstance of their being thus noticed by well educated Englishmen, is a proof that they are not in use at this day in England, and of course, ought not to be used elsewhere by those who would speak correct English.

According to Pickering (pp. 19-20), three principal tendencies exist which might degenerate the English language in America. The least dangerous is the tendency to add new words to the language. "Our greatest danger now is," he warns, "that we shall continue to use antiquated words, which were brought to this country by our forefathers nearly two centuries ago; (some of which too were at that day provincial words in England); and, that we shall affix a new signification to words, which are still used in that country solely in the original sense." Pickering denies that he wishes to imply that Americans have no right to make new words, but such new words should be sanctioned by "the body of the learned and polite of this whole community. . . ."

Most of the entries in Pickering's Vocabulary deal entirely with the meanings of the words and phrases and with lack of sanction by the authorities. "Not to be found in any of the English dictionaries," "low," "vulgar," "used only in conversation"--these are frequently repeated observations. Observations as to pronunciation are not common.

Attack and Defence

Pickering's Vocabulary drew a length, detailed, and

somewhat exasperated rejoinder from Noah Webster.¹⁴ As has been noted, Webster considered certain comment by Pickering as being in the nature of a personal attack. In his reply to Pickering, Webster discusses point by point the Bostonian's charges against American usage of the English language. He refutes the charges to his own satisfaction and argues that growth and change cannot be denied to a living language. He writes (p. 29): "The process of a living language is like the motion of a broad river, which flows with a slow, silent irresistable current." At one point (p. 11), he highlights a sharp distinction between his and Pickering's viewpoint.

With regard to the use of words in writing it is important to remark, that this is a subject with which a lexicographer has no concern. Every writer must select words suited to his subject, and use them upon his own responsibility. The business of the lexicographer is to collect, arrange and define, as far as possible, all the words that belong to a language, and leave the author to select from them, at his pleasure, and according to his own taste and judgement. . . .

Webster's letter (for it was one of the public "letters" typical of the times) marked the beginning of a public dispute between the conservatives and radicals, a dispute in which Pickering himself took no public part. Others, however, were not hesitant in coming to the defence of Pickering and the purity of the English language.

¹⁴Noah Webster, A Letter to the Honorable John Pickering, On the Subject of His Vocabulary; or, Collection of Words and Phrases, Supposed To Be Peculiar to the United States of America (Boston: West and Richardson, 1817).

A temperate defence of Pickering appeared in the fall of 1816 in the pages of the North American Review.¹⁵ The anonymous writer is approving, but warns against misinterpreting Pickering's observations or interpreting them too narrowly. He recommends the work "to the attentive examination of every American scholar." A belated defence of Pickering was made by Dr. Theodoric Romeyn Beck, a New York physician and teacher and a founder of the Albany Institute. On March 18, 1829, Dr. Beck read before the Institute an article entitled "Notes on Mr. Pickering's 'Vocabulary of Words and Phrases, which have been supposed to be peculiar to the United States.'" This is a cautious and qualified, but nonetheless definite, support of Pickering.¹⁶ A more modern defence comes from the pen of H. L. Mencken, who writes:

. . . He made the usual errors of the pioneer, but his sound contributions to the subject were anything but inconsiderable, and it is impossible to forget his diligence and his constant shrewdness. He established firmly the native origin of a number of words now in universal use in America. . . . It was not until 1848, when the first edition of Bartlett appeared that his work was supplanted.¹⁷

The foregoing shows the background against which the

¹⁵"Review of Pickering's Vocabulary," North American Review, September 1816, pp. 355-362.

¹⁶T. Romeyn Beck, "Notes on Mr. Pickering's Vocabulary of Words and Phrases, which have been supposed to be peculiar to the United States," with preliminary Observations," Transactions of the Albany Institute, Vol. I (Albany: Webster and Skinner, 1830), pp. 25-31.

¹⁷Mencken, p. 40.

early American dictionaries had beginning and development. On the one hand was the conservative reverence for the English language as spoken, written, and prescribed by the writers and scholars of Great Britain; on the other hand was the literary and lexical radicalism, expressive of the nationalism of the young American nation. A middle course was undoubtedly difficult to hold.

Two Early Grammars

From the mid-twentieth century vantage point it appears that the most important dictionary ever published in the United States, with respect to its long-range effect, was Noah Webster's An American Dictionary of the English Language, in 1828.¹⁸ "It was," a modern biographer of Webster writes, "the first monumental scholarly work completed by an American citizen."¹⁹ Naturally, this work did not spring full-blossomed from a barren literary soil. Several previously American published dictionaries and many grammar and various "guides" had before this attempted to deal with the different phases of language which we take as a matter of course in the modern dictionary: definition, etymology, spelling, and pronunciation.

One of the earliest of such works was William Bradford's The Secretary's Guide, published first in 1698. Part I of

¹⁸Webster, An American Dictionary of the English Language, in two volumes (New York: S. Converse, 1828).

¹⁹Harry R. Warfel, editor, Letters of Noah Webster (New York: Library Publishers, 1953), p. xlii.

this early work "Contains Directions for Spelling, Reading and Writing true English, with true pronunciation,"²⁰ Included in these pages is a brief discussion of speech sounds which probably did little to clarify any confusion which Bradford's readers may have had. He writes of vowels and diphthongs (p. 3):

They are called Vowels, (which is as much as to say Self-sounders) because each of them gives a perfect sound of it self; whereas the Consonants (that is, Sounders together with) cannot be pronounced without one of the Vowels: As, to say B, you must make use of the sound e after it; and in a, of u, and in m or s, of e before them, &c.

When two Vowels come together, and yet are not parted in Pronunciation, but the sound of them both united, it is called a DIPHTHONG . . .

Bradford lists twelve such diphthongs: ai, ei, oi, au, eu, ou, ee, oo, ea, eo, oa, and ie, but observes that except for the first six, "they are called improper Diphthongs." He discusses (loc. cit.) the ambiguity and confusion of spelling, but does not help matters much by such observations as: ". . . ow is sounded flat and soft; as A Bow, to now; whereas ou is more sharp and shrill, as Thou, you, adieu . . ."

²⁰William Bradford, The Secretary's Guide (Philadelphia: Andrew Bradford, 1728), fourth edition, pp. 1-30.

Charles R. Hildeburn writes, Sketches of Printers and Printing in Colonial New York (New York: Dodd, Mead & Company, 1895), pp. 6-7, "Among his [William Bradford's] publications in 1698 [was] 'A New Primer or Methodical Direction to attain the True Spelling, Reading and Writing of English,' by Francis Daniel Pastorius, of Germantown, of which Manchester, England, boasts the possession of the only known copy, and which may have suggested to Bradford the compilation of his own volume of like nature, 'The Secretary's Guide,' the first edition of which appeared about this period."

The phonological aspects of Pastorius' Primer,²¹ which antedated Bradford's work, are equally scanty and vague. Pastorius gives what he calls "A few OBSERVATIONS for the very Novices, Readers & Writers."

1. A vowel maketh a Syllable, with or without any other letter, as, I am a Man. Ophel is not Urin.
2. The like doth a Diphthong (or two Vowels which have not Consonants between them) as, aw, ay, easy, either, ours, or yours.
3. But a Consonant cannot make a Syllable it self alone, it must needs have a Vowel before or behind, save the Interjection St! whereby we bid men to be silent.
4. A Syllable is a perfect Sound, made like as the three former Observations declare.

He then makes the statement (p. 15) that "a word has as many syllables as there are vowels in it." No indication of pronunciation is given except in his comments on his use of the accent marks (p. 17):

The three-fold Accent, viz. the Circumflex (^) which insisteth very long upon a Syllable: the Acute (´) which insisteth not with so full sound as the former: The Grave (`) which insisteth very little are obvious enough in the Pronunciation. . . .

Samuel Johnson, Jr.

Actually the first dictionary compiled in America by an American was published in 1798. This was the first dictionary

²¹Francis Daniel Pastorius, A New Primer or Methodical Directions to attain the True Spelling, Reading & Writing of ENGLISH, etc. (New York: William Bradford, 1693 [?]).

²²Samuel Johnson, Jr., A School Dictionary (New Haven: Edward O'Brien, 1798 or 1799 [?]).

of Samuel Johnson, Jr., a great nephew of Dr. Samuel Johnson, first president of King's College. Young Johnson was a teacher and designed his dictionary chiefly to establish a guide for both children and for foreigners seeking to learn English. Eva Burkett, writing on Johnson and his dictionaries, asks why this first dictionary was compiled, since it presented no innovations, no improvements, and was, in fact, a compendium of existing works. She partly answers her question by concluding that one important factor was an attempt to stem the "tide of interest in other languages. .

. ."23 There was, at this time, especially among the learned, a definite interest in Hebrew and Latin and a resentment against England with a consequent distaste for the English language. This first dictionary is a modest book of only 198 pages, containing an introduction and approximately 4100 words. Only one edition was printed. This edition includes recommendations from a number of noted contemporaries, including Noah Webster.

The dictionary was intended to supplement the school books and thus took on the character of a dictionary of difficult words. It contains "a few grammatical hints," according to Miss Burkett. Pronunciation is indicated crudely by diacritical marks: long vowels by the breve; the circumflex designates the "natural sounds of ôi, ôu,

²³Eva Burkett, "The American Samuel Johnson and His Dictionaries," Philological Quarterly, XIX, No. 3, July 1940, pp. 295-305.

â," the last two as in sound and law; the circumflex also indicates "the sound of u made by e, i, and o, hêr, stîr, sôme." There are no etymologies. The definitions, writes Miss Burkett, are "good although brief." Spelling, especially in -or, -our words is not consistent.

Johnson's second dictionary had two editions, both in 1800.²⁴ He collaborated in this with the Reverend John Elliott of East Guilford, Connecticut. This dictionary contains 239 pages and nearly 9000 words in the first edition, while the second edition has 235 pages but nearly 500 additional words. The same system to indicate pronunciation is used, although occasionally a word is spelled in brackets with the correct pronunciation, as sugar [shugar]. Mencken comments that this second dictionary, like the first, seems to "have made no impression, despite the fact that the latter was commended by Simeon Baldwin, Chauncey Goodrich and other magnificoes of the time and place, and even by Webster himself."²⁵

In 1800 another American dictionary came off the press. This was Alexander's Columbian Dictionary,²⁶ a small volume of about 550 pages. The entries are borrowed heavily from

²⁴Johnson and John Elliott, A Selected pronouncing and accented Dictionary (Suffield, Connecticut: 1800), first and second editions.

²⁵Mencken, p. 249.

²⁶Caleb Alexander, Columbian Dictionary of the English Language (Boston: I. Thomas and E. T. Andrews, 1800).

Perry and Walker.²⁷ Only a few distinctive American words are given, although Alexander claims on the title page of the work to include "many new words of general use, not found in any other English dictionary." He also slants his pronunciation toward Americans. In the "Advertisement" he writes: "Could any means be used, or any plan devised, to alter and unite Americans in giving similar sounds to all the vowels and consonants, and their various combinations, the event would be happy." Although Alexander is dubious of success in this plan, he continues: "Not despairing, however, of doing a little to fix a uniform and permanent standard of pronunciation, no pains have been spared in dividing and accenting the words according to the practice of the most approved and polite speakers." Krapp comments:

. . . This was no more than any other dictionary maker would have attempted to do. Alexander seems to have felt some feeble desire to record speech as he heard it. He was a patriotic son of New England, satisfied with his native land, but his dictionary was too traditional and imitative to acquire significance as an historically important document.²⁸

Early Works of Noah Webster

Undoubtedly the best-known and the most-used name in American lexicography is that of Noah Webster. "According to Webster" has become a stock phrase of reference and authority. Noah Webster's long life stretched from 1758,

²⁷William Perry, Royal Standard English Dictionary (Edinburgh: 1775; first American edition, Worcester: Isaiah Thomas, 1778).

John Walker, Critical Pronouncing Dictionary and Expositor of the English Language (London: 1791).

²⁸Krapp, Vol. II, p. 359.

the year of Wolfe's victory on the Plains of Abraham, to 1843, a year when American pioneers were settling California and Oregon. He was, in the course of these 85 years, a student at Yale, a soldier in the Revolutionary War, a pamphleteer, a newspaper owner and editor, a farmer, a schoolteacher, a writer of textbooks, a scientist, a politician, and a dictionary-maker. He entered the lists of dictionary-makers in 1806 with the publication of his Compendious Dictionary.²⁹ However, in order to understand better his rôle in the field of dictionary making, one must go back beyond 1806.

A primary function of Noah Webster was to achieve, as Mencken aptly puts it, "the divorce between English example and American practice."³⁰ His first effort in this direction was in his Grammatical Institute of the English Language in 1783.³¹ The Institute is in three parts: a speller, a grammar, and a reader. The first part became The American Speller. The second part became a not too successful grammar,³² much of which was subsequently incorporated into the

²⁹Webster, A Compendious Dictionary of the English Language (Hartford: Hudson and Goodwin; New Haven: Increase Cooke and Co., both 1806).

³⁰Mencken, p. 248.

³¹Webster, Grammatical Institute of the English Language (Hartford: Hudson and Goodwin, 1783).

³²Webster, A Philosophical and Practical Grammar of the English Language (New Haven: Oliver Steele and Company for Brisban and Brannan, New York, 1807).

prefatory matter of the American Dictionary. The third part, the reader, bears the subtitle: "An American Selection of Lessons in Reading and Speaking; calculated to improve the minds and refine the Taste of Youth, and also to instruct them in the Geography, History, and Politics of the United States. To which are prefixed Rules in Elocution, and Directions for expressing the Principal Passions of the Mind." Needless to say, the selections mirror Webster's rabid patriotism and strong belief in the necessity of promoting American literature. It should be said, however, that his selections also include the established classics.

Webster set forth the same ideas a second time in the same year, 1783, in the first edition of his famous American Spelling Book.³³ The influence of this series of spelling books (the "Blue-Back Speller," The American Spelling Book, and The Elementary Spelling Book) was both profound and immediate. It displaced the favorite of the preceding generation, Dilworth's "Aby-sel-pha,"³⁴ and kept undisputed first place in its field until the publication in 1842 of Lyman Cobb's New Spelling Book.³⁵ Even then it held its own.

³³Webster, The American Spelling Book . . . Being the First Part of a Grammatical Institute of the English Language (Boston: Isaiah Thomas and Ebenezer T. Andrews, 1783).

³⁴Thomas Dilworth, Guide to the English Tongue, reprinted in the United States as A New Guideto the English Tongue (Philadelphia: Thomas and William Bradford, 1770, the first of many American reprintings).

³⁵Lyman Cobb, A New Spelling Book (New York: Collins and Hannay, 1842).

Mencken states that 62,000,000 copies had been sold down to 1889.³⁶ Leavitt, writing in 1947, says that over 70,000,000 copies were sold during the life of the book.³⁷ According to Krapp, Webster had conceived a plan for reducing the orthography of English to perfect regularity, with a few additional characters and a few alterations of old ones.³⁸ However, neither in the Institute nor in the Spelling Book did he pursue this idea. Instead, he chose to indicate pronunciation by means of diacritics and special markings. Webster was eminently a practical man and became convinced that the only practical way to indicate pronunciation was in this fashion and by using the sounds of the alphabet as indicated by the conventional names of the letters as a point of departure.

Webster's Dissertations

Webster's early thinking on language found fullest expression in his Dissertations on the English Language in 1789.³⁹ This was published together with An Essay on a Reformed Mode of Spelling. Webster makes a clear and sur-

³⁶Mencken, p. 249.

³⁷Robert Keith Leavitt, Noah's Ark, New England Yankees and The Endless Quest (Springfield: G. & C. Merriam Company, 1947), p. 6.

³⁸Krapp, Vol. I, p. 331.

³⁹Webster, Dissertations on the English Language (Boston: Isaiah Thomas and Company, 1789).

prisingly modern statement of his intentions and basic philosophy in the first of the three "Dissertations" which comprise the body of this work. He writes:

My design, in these dissertations, is critically to investigate the rules of pronunciation in our language; to examine the past and present practice of the English, both in the pronunciation of words and construction of sentences; to exhibit the principal differences between the practice in England and America, and the differences in the several parts of America, with a view to reconcile them on the principles of universal practice and analogy. I have no system of my own to offer; my sole design is to explain what I suppose to be authorities, superior to all private opinions, and to examine local dialects by those authorities.

Most writers upon this subject have split upon one rock: They lay down certain rules, arbitrary perhaps or drawn from the principles of other languages, and then condemn all English phrases which do not coincide with those rules. They seem not to consider that grammar is formed on language, and not language on grammar. Instead of examining to find what the English language is, they endeavor to show what it ought to be according to their rules. It is for this reason that some of the criticisms of the most celebrated philologists are so far from being just, that they tend to overthrow the rules, and corrupt the true idiom, of the English tongue. . . .⁴⁰

Webster treats of the sounds of American English in "Dissertation II" (p. 81 ff.). At the outset he gives the twenty-five characters which singly or in combination represent certain sounds. These characters are all the letters of the alphabet with the exception of h, but Webster adds (p. 81): "The English have also the character h, which marks

⁴⁰ Webster, Dissertations on the English Language (Gainesville, Florida: Scholars' Facsimiles and Reprints, 1951), pp. 36-37.

All references hereafter to page numbers of Webster's Dissertations will be to this reprint edition.

an aspiration or strong breathing, but has very little sound of its own." He then proceeds (p. 82) to make the division of vowels, diphthongs, and consonants with the following definitions:

1. A vocal sound, formed by opening the mouth, and by a single position of the organs of speech, is a simple sound or vowel. Most of the vowels in English are capable of being prolonged at pleasure, without varying the position of the organs.

2. No more than one simple sound can be formed by one aperture of the mouth and one position of the organs of speech. The only difference that can be made with the same position of the organs, is, to prolong and shorten the same sound.

3. Two simple sounds, closely united in pronunciation, or following each other so rapidly that the distinction is scarcely perceptible, form a diphthong [*sic*]. In pronouncing a diphthong, two positions of the parts of the mouth are required.

4. Those letters which are not marks of articulate sounds, but represent indistinct sounds, formed by some contact of parts of the mouth, or by compressing those parts, which check all sound, are denominated consonants.

He enlarges upon the second division to establish (pp. 83-84) the traditional "short" and "long" vowels. His third definition leads him to classify (pp. 84-85) the letter i as a diphthong, the letter u as a vowel, and the letter y as having "no property but what belongs to i."

Dissertations: The Vowel Sounds

Webster gives a key (p. 16) to the pronunciation of the vowels directly before "Dissertation I," referring back to his earlier Institutes. This key, labeled "Directions," follows.

DIRECTIONS

The sounds of the vowels, marked or referred to in the second and third Dissertations, are according to the Key in the First Part of the Institute. Thus:

	a	e	i	o	u	y
First sound,	late,	feet,	night,	note	tune	sky,
Second,	hat,	let,	tin,		tun,	glory,
Third,		law,	fraud,			
Fourth,		ask,	father,			
Fifth,		not,	what,			
Sixth		prove,	room.			

In the body of these essays Webster marks the pronunciation of the vowels by placing the numbers 1 to 6 over the vowel letter, thus: "ā," which is obviously [e] or [ei].

The vowel sounds of English, according to Webster, are summarized in the following pages. Page references to the Dissertations are given in parentheses.

[1]

Webster gives this in his "Key" as the first sound of e, as in feet. He calls it the "long or grave articulation" and states (p. 83) that it differs from [i] "only in the time of being pronounced." It is one of the "pure primitive vowels."⁴¹

[i]

This is the second sound of i, as in tin. Webster

⁴¹"The vowels therefore in English are all heard in the following words: late, half, hall, feet, pool, note, tun, fight, truth. The five first have short sounds or duplicates, which may be heard in let, hat, hot, fit, pull; and the letters i and y are but accidentally vowels. The pure primitive vowels in English are therefore seven." (Dissertations, p. 88.)

believes there is no difference in the quality or in the articulation of [i] and [ɪ]. He states (p. 83): "Thus i in fit has the same quality of sound as ee in feet, for both are pronounced with the same disposition of the organs; but the first is the shortest articulation of the sound, and the last, a long or grave articulation." Again (p. 85): "The short sound of i and y, is merely short ee."

[e]

This is the first sound of a, as in late. Webster does not regard this as a diphthong. Writing (p. 86) of the pronunciation of certain combinations of letters as "one simple sound . . ." he cites several combinations and says that each "actually exhibits the sound of one letter only, which sound is as simple as that of a or o." This is one of the seven "primitive vowels."

[ɛ]

This is the second sound of e, as in let. Speaking of quantity (pp. 83-84), Webster writes that "a in late has its short sound in let. . . ."

[æ]

This is probably the second sound of a, as in hat. It is probably the same sound that Webster refers to (p. 84) when he writes that "a in cart has its short sound in carry"

[ɑ]

This is the fourth sound of a, as in ask and father. It is also probably the sound of a in cart. It is probably

the "pure primitive vowel" represented by the a in half (p. 88). Regretably, descriptions of sounds given by early phonologists too frequently are not clearly indicative. Undoubtedly, this fourth sound of a is not [æ], as Webster gives this as the second sound of a, as in hat. In his 1806 dictionary, Webster rejects Sheridan's use of [æ], as in hat, in such words as ask, demand, and father.⁴² Grandgent states that "until 1780 or thereabouts the standard language had no broad a."⁴³ Krapp credits the use of [a] to Worcester, in his attempt to avoid "the vulgar extreme," [ɑ]. Worcester, so Krapp writes, followed the lead of the British lexicographer Smart, who recommended the compromise vowel.⁴⁴ This would seem to point toward [ɑ] for Webster's fourth sound of a.

[ɔ]

This is the third sound of a, as in law and fraud.

With respect to the combination aw, Webster writes (p. 86):

The union of a and w in law, has been very erroneously considered a diphthong [sic]. Whatever might have been the ancient pronunciation of these letters (and it is probably that good reasons operated to produce their union) they now exhibit but one simple

⁴²Webster, A Compendious Dictionary of the English Language, "Preface," p. xii. ("Sheridan's book enjoyed unrivalled popularity for ten or fifteen years; and after having corrupted the pronunciation of millions of people, it was succeeded by Walker . . . who corrected many mistakes, but . . . he fell into such palpable mistakes, in his own schemes as to utterly defeat his object.")

⁴³C. H. Grandgent, "Fashion and the Broad A," Nation, January 7, 1915, pp. 13-14.

⁴⁴Krapp, Vol. II, p. 103.

vocal sound. The same may be observed of ee, oo, au, ai, ea, ei, ie, eo, oa, and perhaps some other combinations, each of which actually exhibits the sound of one letter only, which sound is as simple as that of a or o.

This is the "primitive vowel" represented (p. 88) by a in hall and (p. 84) by a in fall.

[v]

This apparently is the fifth sound of o, as in not, and the fifth sound of a, as in what. Webster states (p. 84) that "a in fall has its short sound in folly . . ."

[u]

This would seem to be the sixth sound of o, as in prove and room. It is a long sound (p. 84): ". . . oo in fool [has] its short sound in full." It is one of the "pure primitive vowels," as represented (p. 88) by pool.

[u]

This is the "short sound" of [u] (p. 84): ". . . oo in fool [has] its short sound in full." Curiously, [u] is not given in the "Key."

[o]

This is the first sound of o, as in note. Webster does not recognize the diphthongal quality of this vowel. It is referred to (p. 86) as a "simple sound." The "short" value is recognized but is not considered significant (p. 84): "o is sometimes shortened in common parlance, as in colt; but the distinction between o in coal and colt, seems to be accidental or caused by the final consonant, and not sufficiently settled or important to require a separate

consideration." This sound is one of the "pure primitive vowels."

[ʌ]

This is the second sound of u, as in tun. Webster states (p. 85): "The short sound of u in tun, is a separate vowel, which has no affinity to any other sound in the language." It, too, is one of the seven "primitive vowels."

Webster does not distinguish any other central vowels. With respect to modern [ɜ, ɜ], he states (pp. 125-126): "In the middle and southern states, fierce, perce, terce, are pronounced feerce, peerce, teerce." Webster believes this an error. "The standard English pronunciation," he writes, "now is ferce, perce, terce, and it is universal in New England. I have only to add, that the sharp abrupt sound of e in the two first words is most happily adapted to express the idea." Apparently the vowel indicated is [ɛ]. Ellis comments that the pronunciation indicated by Webster ". . . is now, 1871, unknown in the South of England."⁴⁴ Webster implies (pp. 127-128) that heard is pronounced [hɪrd] or [hɪrd], stating that in England the pronunciation is herd or hurd, and continuing, ". . . we may as well change feared, seared, into ferd, serd, as to change heard into herd."

Dissertations: The Diphthongs

[aɪ]

⁴⁴Alexander J. Ellis, Early English Pronunciation, Part IV (London: Asher and Co., and Trübner & Co., 1874), p. 1069.

This is the first sound of i, as in night, or of y, as in sky, according to the "Key." Other examples (p. 88) are the sound of ie, as in die, and y, as in defy. Webster writes with strong disapproval (pp. 109-110) of "the very modern pronunciation of kind, sky, guide, &c. in which we hear the short e before i, keind, or kyind, skey, &c. . . . the elegant pronunciation of the fashionable people both in England and in America. . . ."

[ou]

The modern American English [au] (usually so represented) was apparently heard by Webster as [ou]. He writes (p. 86):

The sound of ou or ow is also diphthongal [sic], compounded of third a and oo. The sound however does not require quite so great an aperture of the mouth as broad a; the position is more natural, and the articulation requires less exertion.

Examples given (p. 88) are ou, as in round, and ow, as in now.

[oi]

The diphthong usually represented today by [oi] was heard by Webster as [oi]. He writes (p. 85): "The sound of oi or oy is diphthongal [sic], composed of the third or broad a, and ee." Examples given (p. 88) include voice and joy.

[ei], [ou]

Webster considers neither of these as diphthongs, but as [e] and [o].

[iu]

Under his discussion of vowel sounds, Webster treats of the diphthong usually transcribed today as [iu] or [ju]. Although this sound is grouped with the vowels, it is obvious that Webster recognizes it as composed of two distinct sounds. He writes (pp. 84-85):

U also is not strictly a vowel; nor is it, as it is commonly represented, composed of e and oo. We do not begin the sound in the position necessary to sound ee, as is obvious in the words salute, salubrious, revolution; but with a greater aperture of the mouth and with a position perfectly easy and natural. From that position we pass to the position with which we pronounce oo, and there close the sound.

This is the first sound of u, as in tune. It seems likely that Webster here is describing a sound similar to [iu].

The word due is also given as a example (p. 83). Later, Webster makes this further comment (p. 151):

. . . If we attend to the manner in which we begin the sound of u in flute, abjure, truth, we shall observe that the tongue is not pressed to the mouth so closely as in pronouncing e; the aperture of the organs is not so small; and I presume that good speakers, and am confident that most people, do not pronounce these words fleute, abjeure, treuth. Neither do they pronounce them floote, abjoore, trooth; but with a sound formed by an easy natural aperture of the mouth, between iu and oo; which is the true English sound. . . .

The above described vowel is that usually heard in America, Webster notes (p. 159), except that in new, brew, etc., "we do not hear the sound of e, except among the Virginians, who affect to pronounce it distinctly, ne-ew, ne-oo . . ."

Webster tentatively classes [w] plus vowel under the heading of diphthongs. He writes (p. 88): "To these [the preceding diphthongs] we may add ua in persuade; and

perhaps the combinations of w and the vowels, in well, will, &c." In a discussion of w and j (pp. 86-88), he makes comments on the production of the consonant sounds of the letters.

. . . W has nearly the short sound of oo . . . it is pronounced by opening the mouth, without a contact of the parts; altho, in a rapid pronunciation, it approaches to a consonant. It is however very immaterial, whether we class it with the vowels or consonants; as all grammarians agree that its sound is that of oo short.

The sound of y in the beginning of words, is, by some writers, called a vowel, but by most of them a consonant. . . . in the American pronunciation of y, the root of the tongue is pressed against the upper part of the mouth, above the palate, more closely than it is in pronouncing ee, and not so closely as in pronouncing g hard. The transition however from y to ee or to g, is extremely easy and hence the mistake that y is short ee, as also the convertibility of y with g. It appears to me that y in the beginning of words, is more clearly a consonant than w.

Dissertations: The Consonants

There follows now a brief consideration of the consonants of English, as viewed by Webster (pp. 88-90). He writes:

The consonants in English are nineteen; but for want of proper characters, five of them are expressed or marked by double letters. We annex two sounds to th; one to sh; one to ng; and one to si or su, as may be heard in the following words; think, this, shall, bring, confusion or pleasure. These characters should be called, eth, esh, eng, ezh; and th should have two names, the aspirate as in think, and the vocal as in this; the latter sound might be distinguished by a small mark drawn thro th. This improvement is so obvious and easy, and would be so convenient for the learner of the language, that I must believe it will soon be introduced.

He then divides the consonants into "mutes" and "semi-vowels."

The voiceless plosives are "perfect mutes" and the voiced

plosives are merely "mutes." The articulation of the voiceless and voiced plosives is described respectively as follows:

" . . . When a consonant compresses the lips, or the tongue and roof of the mouth, so closely as to check all sound

. . . " it is then a "perfect mute," such as [p], [t], and

[k]; ". . . When the compression of the organs is more

gentle and does not stop all sound immediately . . . " it

is then a "mute," such as [b], [d], and [g]. Webster con-

tinues:

. . . When a consonant has an imperfect sound, or hissing, which may be continued, after a contact of the organs, it is denominated a semivowel. Of this kind are ef, el, em, en, er, es, ev, ez, eth (both sounds), esh, ezh, ing. Of these, four are aspirates, ef, es, eth, and esh. The others are vocal, having an imperfect sound.

In addition to the classification of consonants as "perfect mutes," "mutes," and "semivowels," both "vocal" and "aspirate," Webster also classifies them according to manner of articulation: those formed

By the lips, are called labials--b, p, f, v.

By the teeth, are called dentals--d, t, th, z, f, sh, zh.

By the palate, are called palatine--g, k, l, r.

By the nose, are called nasal--m, n, ng.

It will be observed that Webster does not mention [^h], [t_f], or [d₃], and that [h] is mentioned only as "an aspiration or strong breathing." The affricates are considered (p. 143 ff.) as compounds, while the following (p. 121) is pertinent to [_m].

There are many people who omit the aspirate in most words which begin with wh; as white, whip, &c. which they pronounce wite, wip, &c. To such it is necessary only to observe, that in the pure English pronunciation, both in Great Britain and New England,

for it is exactly the same in both, h is not silent in a single word beginning with wh. . . . In this class of words, w is silent in four only, with their derivatives; viz. who, whole, whoop, whore.

The "Rule of Analogy"

A large part (pp. 91-103) of "Dissertation II" is concerned with the "Rules of Pronunciation." Important here is Webster's "rule of analogy." He writes (pp. 91-92):

In pronouncing both vowels and consonants, the general rule is, that similar combinations of letters should be pronounced alike, except when general custom has decided otherwise. . . . This is the rule of analogy, the great leading principle that should regulate the construction of all languages. But as languages are not formed at once by system, and are ever exposed to changes, it must necessarily happen that there will be in all languages, some exceptions from any general rule; some departures from the principles of uniformity.

Webster closes this second "dissertation" in a fashion that makes it easy to understand why such linguistic conservatives as John Pickering reggraded him with some mistrust and dismay. He contends (pp. 129-130) that in many instances American speakers adhere to the principles of analogy while the English speakers do not. Americans, he says, should retain their own practices and standards, since, while the English practice has undoubtedly established authority, it is, nevertheless, subject to change and error--as much so as "the practice of a well educated yeomanry, who are governed by habits and not easily led astray by novelty."

The Spelling Books

After these radical "Dissertations," an examination of the pronunciation and orthography of the 1806 dictionary and

the series of spelling books comes somewhat as an anti-climax. Webster was much too practical to be a reformer, and although much of the thinking that went into the writing of the Grammatical Institute of 1783 and the American Spelling Book of the same year found expression in the Dissertations in 1789, the latter was a philosophical work and the former two were designed to be sold. As Krapp says, "Webster's procedure in the American Spelling Book was on the whole very conservative."⁴⁵ Although committing himself as in favor of spelling reform, he retained, in general, the accepted spellings. It was only in the spelling of American place names, especially those of Indian origin, that he allowed himself liberty. Only a few instances of spelling reform need be noted: the omission of u in such words as favo(u)r, and other conservative simplifications.

As to the sounds of English, his analysis is basically that given in the later Dissertations. The sounds of the consonant letters are given, on the whole, quite accurately. The pronunciation of vowels is indicated by superior numbers, according to a table printed as a "Key to the following work" (see Plate XIII,⁴⁶ p. 314). The deviation here from the

⁴⁵Krapp, Vol. I, p. 337.

⁴⁶Actually this plate was photographed from two different editions. Since two copies of no one edition were available, for convenience two pages of two editions were matched. The left-hand page is from the Kimber and Sharpless edition of 1826 (Philadelphia) and the right-hand page is the 1824 edition of H. Hudson (Hartford). Both are "The Revised Impression." A few words were blocked out at the bottom of the page from the 1826 edition. Texts are identical.

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Key to the following Work.

Long.			Short sw.		
1	1	1	5	5	5
a	name,	late.	a	what,	was.
e or ee	here,	feet.	e	not,	from.
i	time,	find.		Ou proper.	
o	note,	fort.	8	6	6
u or ew	tune,	new.	or or oo	move,	room.
y	dry,	defy.		Oo short.	
Short.			7	7	7
2	2	2	oo	book,	stood.
n	man,	hat.	u	bush,	fall.
e	men,	let.		Short u.	
i	pit,	pin.	8	8	8
u	tun,	but.	i	air,	bird.
y	glory,	Egypt.	o	come,	love.
Broad a or aw.			e	her.	
3	3	3		Long a	
a	ball,	tall.	e	there,	vein
o	cost,	sought.		Long a	
aw	law.		10	fatigue,	10
				fatigue,	fatigue.
				diphthong; voice, joy.	
				diphthong; loud, now.	

Explanation of the Key.

A figure stands as the invariable representative of a certain sound. The figure 1 represents the long sound of the letters, a, e, i, o, u, or ew, and y; number 2, the short sound of the same characters; number 3, the sound of broad a, as in *ball*; number 4, the sound of a, in *father*; number 5, represents the short sound of broad a, as in *not*, *what*; number 6 represents the sound of e in *we*, commonly expressed by ee; number 7, represents the short sound of e in *not*, *what*; number 8, represents the sound of u short

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made by e, i, and o, as in *her*, *bird*, *come*, pronounced *Aur*, *bird*, *cum*; number 9, represents the first sound of a made by e, as in *their*, *vein*, pronounced *thare*, *vaice*; number 10, represents the French sound of t, which is the same as e long.

The sounds of the diphthongs of *ai* and *ou* are not represented by figures; these have one invariable sound, and are placed before the words where they occur in the tables.

Silent letters are printed in *Italic* characters. Thus in *head*, *goal*, *build*, *people*, *fight*, the *Italic* letters have no sound.

S, when printed in *Italic*, is not silent, but pronounced like z, as in *devise*, pronounced *derize*.

The letter e at the end of words of more syllables than one, is almost always silent; but serves often to lengthen a foregoing vowel, as in *bid*, *bide*; to soften c, as in *notice*; or to soften g, as in *homage*; or to change the sound of th from the first to the second, as in *bath*, *bathe*. In the following work, when e final lengthens the foregoing vowel, that is, gives it its first sound, it is printed in a Roman character, as in *fate*; but in all other cases it is printed in *Italic*, except in table 39.

Ch have the English sound, as in *charm*; except in the 38th and 39th tables.

The sounds of th in *this* and *thou*, are all distinguished in the 12th and 37th tables; except in numeral adjectives.

The sound of aw is invariably that of broad a, and that of ew nearly the same as a long.

N. B. Although one character is sufficient to express a simple sound, yet the combinations ee, ew, oo, are so well known to express certain sounds, that it was judged best to print both letters in Roman characters. Ch and ss are also printed in Roman characters, though one alone would be sufficient to express the sound.

outline in the Dissertations is in detail, rather than in principle. Here, the vowel in time, find, is not classed as a diphthong. Here, also, is found "Flat a," as in ask, part. Considering the conservative nature of Webster's pronunciation dicta, here, this is probably [a]. Undoubtedly it is a sound different from the "short" a, as in man, hat. A defective listing, according to modern concept, is that of "Short u." Here we find the examples sir, bird, come, love, and her. This sound, says Webster, "is made by e, i, and o, as in her, bird, come, pronounced hur, burd, cum" But there is also the short sound of u represented by tun, but.

Krapp notes a paradox in commenting on the popularity of The American Spelling Book:

The popularity of the book was doubtless due in large measure to the fact that it presented an orderly, and as far as convention at all permitted, an economical and systematic guide to English spelling. It is historically significant therefore, not as a radical book, but because it became so widely used. In fact, the American Spelling Book became so generally accepted as a standard that it made any thoroughgoing reform of spelling more than ever impossible.⁴⁷

This is not a history of spelling-books, but mention must be made of the only two rivals to Webster in this field. In the East, the only rival of any importance was Lyman Cobb and his series of spellers, culminating with the New Spelling Book of 1842.⁴⁸ Cobb, in matters of pronunciation, was

⁴⁷Krapp, Vol. I, pp. 338-339.

⁴⁸Lyman Cobb, New Spelling Book (New York: C. Bartlett, 1842).

strictly a follower of Walker. In the West, as the West was thought of in the early nineteenth century, William Holmes McGuffey and his brother Alexander were the originators of the famed "Eclectic Series" of readers and spellers. In matters of pronunciation and orthography, McGuffey adhered to the Websterian standards.⁴⁹

Webster's Early Dictionaries,

Minor Rivals

In the Compendious Dictionary of 1806, the approach to spelling was somewhat more radical, compared to the traditional approach, but the approach to pronunciation was decidedly conservative. Whereas in the spelling books Webster had declared for reformed spelling but had done little about it, in the 1806 dictionary he made a determined assault upon the stronghold of English lexicographers. He swept out whole classes of silent letters and, in addition, he anticipated "simplified spelling" with such innovations as tung for tongue, cag for keg, and others. Many of these innovations failed of acceptance. Some of them were abandoned, in the course of time, by Webster himself. However, a significant number are with us yet.

The "Directions for Pronunciation," immediately preceding the body of the dictionary, are short and simple.

⁴⁹Harvey C. Minnich, William Holmes McGuffey and His Readers (New York: American Book Company, 1936), p. 55. For a brief but thorough survey of American spellers and readers, the reader is referred to this book, especially pp. 41-58.

Pronunciation of the vowel sounds is based on the concept of "long" and "short" sounds of the letters. An accent mark over the vowel denotes it as "long," as in vócal; an accent after a consonant denotes the preceding vowel as "short," as in amend'. As a guide in other cases, Webster writes: "When the pronunciation of a word is very different from that which the letters naturally indicate, it is expressed by a different orthography." The consonants are listed with their accepted sound value and specific comments are made to indicate that ch equals [tʃ], that g before i or e equals [dʒ], "unless otherwise noted," and that "Italic letters are silent. . . ."

In 1807, Webster published a brief form of the Compendious Dictionary intended for use in elementary schools. In it his spelling reform was carried out in somewhat more detail. The approach to pronunciation was not altered. His most important dictionary was not to appear until 1828. In the meantime, other dictionary-makers were not idle.

In 1813 the New Critical Pronouncing Dictionary of the English Language came off the press.⁵¹ The author, although anonymous in print, was Richard S. Coxe, a Princeton graduate. In matters of pronunciation, Coxe followed Walker.

⁵⁰Webster, A Dictionary of the English Language compiled for the use of common schools in the United States (New Haven: N. H. Sidney's Press, 1807).

⁵¹An American Gentleman, New Critical Pronouncing Dictionary of the English Language (Burlington, New Jersey: D. Allinson and Company, 1813).

Part of the introductory material of this 1813 publication was a reprinting of Walker's Principles of English Pronunciation.⁵² In matters of spelling, Coxe followed Johnson.

Two years later another dictionary appeared which also followed Walker with minor exceptions. This was compiled by Burgiss Allison and bears an imposing title: American Standard of Orthography and Pronunciation and Improved Dictionary of the English Language.⁵³ However, as Krapp comments, ". . . its Americanism did not extend much beyond the title page."⁵⁴ The New York Expositor, which first appeared in 1822, was also based chiefly on Johnson and Walker.⁵⁵ The title page of this dictionary of "useful words," carries the following: "The whole selected, divided, accentuated, and explained, with reference to a Key for their pronunciation; chiefly on the authorities of Johnson and Walker." In the directions for pronunciation, preceding the body of the work, it is noted that stressed syllables are marked with the grave to denote the "long

⁵²John Walker, Principles of English Pronunciation (London: G. G. J. and J. Robinson, 1791).

⁵³Burgiss Allison, American Standard of Orthography and Pronunciation and Improved Dictionary of the English Language (Burlington, New Jersey: J. S. Meecham, 1815).

⁵⁴Krapp, Vol. I, p. 370.

⁵⁵Richard Wiggins and John Griscom, The New York Expositor (New York: S. Wood and sons; Baltimore: S. S. Wood and Company, 1822; second edition appeared in 1825; third edition appeared in 1848; the last two editions were issued by Grigg, Elliot and Company, Philadelphia.

sound" of the vowel and with the acute to mark the "short sound." Unstressed syllables are marked with the macron to designate a "long" vowel and with the breve to denote a "short" vowel. The circumflex denotes "the broad sound of a; as, âlso, wâr." Wiggins concludes his remarks with: When these marks are insufficient, the word is repeated." William Grimshaw's Etymological Dictionary, first edition, 1821, appears to have been just what the title implies.⁵⁶

The history-making period of the dictionary in early nineteenth century America began in 1828 with the publication of Webster's American Dictionary of the English Language. This has been called "his greatest work."⁵⁷ This statement demand qualification, as will be seen.

The 1828 Webster

The profits derived from the sale of his American Spelling Book and his earlier inexpensive elementary dictionaries freed Webster to proceed into larger endeavors. His American Dictionary, finally published in two volumes in 1828, was begun years before. Warfel writes that he had completed the etymological work by 1817.

. . . In June, 1824, he went to France, where he collected new scientific terms, and then in Septem-

⁵⁶William Grimshaw, An Etymological Dictionary or Analysis of the English Language Containing the Radicals and Definitions of Words Derived from the Greek, Latin, and French, Languages; and all the generally used Technical and Polite Phrases, adopted from the French and Latin (Philadelphia: Printed for the Author by Lydia R. Bailey, 1821).

⁵⁷Edgerton, p. 26.

ber he moved to Cambridge, England, where in the University Library, in January, 1825, he entered the final word in his book. He returned home and put the book to press in New Haven. . . .⁵⁸

Much of the glamor has faded from Webster's chief work.

Krapp writes: "Despite its historical importance . . .

[it] can be said to have been only partially successful."⁵⁹

Much of Webster's spelling reform has failed to survive.

His cherished and laboriously prepared etymological work was faulty and, in the words of a recent writer, "destined for eventual rejection."⁶⁰

Fundamentally, Webster's ideas on orthography are the same in the 1828 dictionary as in earlier works, but show a diminution of the reformer's zeal. In etymology, he is more ambitious and less successful than in any other phase of his work. He correctly regards previous dictionaries as inadequate in this respect, but reveals an incredibly naive approach in his own work. He seems to have been completely ignorant of or to have disregarded completely the work of contemporary European scholars. He holds to the concept of a unified primitive language in existence before the "dispersion"--the language was Chaldee.

His major contribution lay in the definition of words. Krapp writes:

⁵⁸Warfel, op. cit., p. xlii.

⁵⁹Krapp, Vol. I, p. 362.

⁶⁰Leavitt, op. cit., p. 32.

. . . In this part of his work especially Webster's Yankee ingenuity stood him in good stead. He was a good definer of words because he wanted to know about all things, not merely about them in general, but with the detailed knowledge which comes from taking ideas apart and putting them together again.
 . . .⁶¹

As to pronunciation, the chief concern of this study, Webster's treatment in the American Dictionary is not advanced over his treatment in the earlier works. Indication of pronunciation, in fact, is somewhat less precise; instead of superior figures over the vowels, diacritical marks are used, with occasional respelling. With respect to pronunciation, there, too, Webster's dicta have faded. Leavitt writes:

His advocacy of the then-current American fashion had much basis in logic, and he pointed out with some brilliance and a good deal of biting scorn how capriciously English pronunciation had been (and was even then being) corrupted by self-appointed setters of a fashion in speech which would mark the difference between a gentleman and a man of the streets. The very commonness of a pronunciation, he contended, was the reason why it ought to be preferred. But time has made a mockery of Webster's logic and eloquence: today for deaf we say dēf rather than dēf, ask rather than ax, further rather than furder, as Webster would have had us do.⁶²

It would be well at this point to survey briefly Webster's ideas of pronunciation as presented in the "Introduction" to the 1828 dictionary.⁶³ He reviews

⁶¹Krapp, Vol. I, pp. 367-368.

⁶²Leavitt, p. 30.

⁶³Webster, An American Dictionary of the English Language, in two volumes (New York: S. Converse, 1828), "Introduction," unnumbered pages.

the accomplishments and theories of his predecessors. He acknowledges that Sheridan's analysis of English vowels was "very critical." "But," he writes, "in the application of his principles, he failed of his object. Either he was not well acquainted with the best English pronunciation, or he had a disposition to introduce into use some peculiarities, which the English did not relish." Webster does not esteem Walker too highly, but seems to regard Stephen Jones' revision favorably. Most highly regarded is William Perry's pronouncing dictionary. Actually, Webster does depart from Walker's pronunciation in many individual instances. He calls it "the most remote" from actual current usage. He claims that the vowels given by Walker are not so used in England and says, "The zeal manifested in this country, to make his pronunciation a standard, is absolute infatuation" Webster's own ideas as to the sounds of English have not fundamentally changed since his Dissertations, as can be seen by reference to his "Directions for the Pronunciation of Words" (see Plates XIV and XV, pp. 323 and 324), for the 1828 dictionary.

After the publication of the American Dictionary, Webster became even more a controversial figure and storm center in the American world of letters. Part of this controversy had nothing or little to do with the merits of Webster's work. Writing of the publication of the Compendious Dictionary in 1806, Warfel comments that it

. . . stirred great opposition in the Monthly

PLATE XIV

DIRECTIONS

FOR THE

PRONUNCIATION OF WORDS.

The principal sounds of the vowels are, the *first* or *long*, and the *second* or *short*.

Examples of the first or long sound.

a in make, fate, grace.
e in me, mete, meter.
i in pine, bind, strife.
o in note, hold, port.
u in true, duty, rude.
y in dry, defy, imply.

Examples of the second or short sound.

a in mat, ban, grand.
e in bet, men, send.
i in bit, pin, miss.
o in not, boss, bond.
u in dun, must, refund.
y in pity, cycle, synonym.

The principal things to be regarded in learning the pronunciation of English words, are the accent and the sound of the vowel of the accented syllable.

RULE I. This mark ' called an accent, designates the accented syllable.

II. The accent placed immediately after a vowel indicates the vowel to have its first or long sound, either at the end or in the middle of a syllable; as in sa'cred, pre'cept, ri'tot, po'et, mu'sic, cy'press; de'gra'de, reple'te, divi'de, explo'de, intru'de.

III. A horizontal mark or point over a vowel shows it to be long, and when no accent is found in the word, this mark designates the accented syllable; as in disc'ourse, en'er'gic, best'ow, en'roll, cour'ser, suit'able.

IV. An accent placed immediately after a consonant, or combination of consonants in the same syllable, indicates that the vowel of that syllable, if unpointed, is short; as in hal'it, ten'et, con'duct, ul'ter, sym'bol; adapt', intend', predict', despond', abrupt'.

Exceptions.

1. A pointed vowel has the sound designated by the point or points; as in full'ness, al'ter'able, book'ish, convey'.
2. a before ll, ld and lk, in monosyllables or accented syllables, has its broad sound like air; as in befall', bald'ness, walk'ing.
3. o before ll is long; as in enroll'.

V. An accent immediately after a diphthong, or after a syllable containing one, designates the accented syllable, but the diphthong has its proper sound; as in renew', devout', avow', appoint', annoy'.

VI. This mark ' called in Greek the grave accent, placed before a vowel, indicates that vowel to have its Italian sound, as in 'ask, 'bar, 'father, m'ask. In words of two or more syllables, when no other accent is used, this designates the accented syllable; as in 'answerable, b'argain.

VII. Two accents immediately before e, t or s, indicate that e, t or s, in pronunciation, coalesce with the following vowel, and form the sound of sh or zh, which closes the syllable, and of course the preceding vowel is short. Thus, vi'cious, ambi'tion, are pronounced vish'us, ambish'on; vi'sion is pronounced rish'un.

VIII. C before a, o and u, and in some other situations, is a close articulation, like k, and in the vocabulary of this work, whenever it is equivalent to k, it is marked thus C.

Before e, i and y, c is precisely equivalent to s, in same, this; as in cedar, civil, cypress, capacity.

IX. E final answers the following purposes.

1. It indicates that the preceding vowel is long; as in hate, mete, mire, robe, lyre; abate, recede, invite, remote, intrude.
2. It indicates that e preceding has the sound of s, as in lance, lance, and that g preceding has the sound of j, as in charge, page, challenge.
3. In proper English words, e final never forms a syllable, and in most words, in the terminating unaccented syllable, it is silent and useless. Thus, motive, genuine, examine, juvenile, reptile, granite, are pronounced motiv, genuin, examin, juvenile, reptil, granit.

In a few words of foreign origin, e final forms a syllable, as in syncope, simile. These are noted in their place.

X. E final is silent after l in the following terminations, ble, cle, dle, fle, gle, kle, ple, tle, zle; as in able, manacle, erracle, ruffle, mangle, wrinkle, supple, rattle, puzzle, which are pronounced a'bl, man'ar'l, erra'dl, ru'fl, man'gl, wri'n'kl, sup'pl, puz'z'l.

XI. In the termination en, e is usually silent; as in token, broken, pronounced to'kn, bro'kn.

XII. The termination ous in adjectives and their derivatives is pronounced us; as in gracious, pious, pompously.

XIII. The combinations ce, ci, ti, before a vowel, have the sound of sh; as in retaceous, gracious, motion, partial, ingratiate, pronounced reta'shus, gra'shus, mo'shon, par'shal, ingra'shate.

But ti after a consonant have the sound of th; as in christian, transaction, mixture, pronounced chris'than, bas'chan, mix'chun. So in combustion, digestion.

Si after an accented vowel are pronounced like zh; as in Ephesian, confusion, pronounced Ephez'han, confu'zhun.

When ci or ti precede similar combinations, as in pronunciation, negotiation, they may be pronounced ce, instead of she, to prevent a repetition of the latter syllable; as pronunciation, instead of pronunshashun.

XIV. Gh, both in the middle and at the end of words, are silent; as in caught, bought, fright, high, sight; pronounced caut, baut, frite, ni, si.

Exceptions. In the following words gh are pronounced as f—cough, enough, clough, enough, hough, laugh, rough, slough, tough, trough.

XV. When wh begin a word, the aspirate h precedes w in pronunciation, as in what, whale, pronounced hwat, hwail, hwale; it having precisely the sound of ao, French ou.

In the following words, w is silent—who, whom, whose, whoop, whole, whore.

XVI. H after r has no sound nor use; as in rheum, rhyme, pronounced reum, ryme.

XVII. K and g before n are silent; as in know, gnaw, pronounced no, naw.

XVIII. H' before r is silent; as in wring, wreath, pronounced ring, reath.

XIX. B after m is silent; as in dumb, numb, pronounced dum, num.

XX. L before k is silent; as in baulk, walk, talk, pronounced bank, wauk, tauk.

XXI. Ph have the sound of f; as in philosophy.

XXII. The combination ng has two sounds; one, as in sing, singer; the other, as in finger, linger, longer. The latter is the more close palatal sound; but the distinction can only be learned by the ear.

XXIII. The letters el, answering to kl, are pronounced as if written tl, clear, clean, are pronounced tear, lean.

Gl are pronounced as dl; glory is pronounced dlory.

XXIV. V after m, and closing a syllable, is silent; as in hymn, condemn.

XXV. P before s and t is mute; as in psalm, pseudology, ptarmigan, pronounced sam, sulology, tarnigan.

The letter y unaccented and terminating words of more syllables than one is short, like i in pity and ability. This letter, in the plural number of nouns and in the third person singular of the present tense of verbs, is dropped, and is substituted and followed by s. The termination thus formed is pronounced iz; as from vanity, is formed vanities, pronounced vantiz; from the verb to pity is formed pitiez, pronounced pitiz.

But when y in monosyllabic verbs, and accented y in other verbs ends the word, the termination ies in the third person is pronounced ize; as in flies from fly, defies from defy. So cries, both the verb and noun, is pronounced erize.

S has two sounds; its proper sound as in see, and that of e as in his. It

PLATE XV

PRONUNCIATION OF WORDS.

has its proper sound after the following consonants *f, p, t, k, C*, and *th* as *capitate*, whether they end the word or are followed by *e* final; as in *chiefs*, *caps*, *streets*, *trunks*, *hates*, *hopes*, *fates*, *flakes*, *breaths*, *wreaths*. It has the sound of *z*, after *b, c* followed by *e* final, *d, g, gh, l, m, n, r, s* and *ss*, *z, v, ur, ug, ur, ey, ov, oy, sh, ng, th* vocal, *ch, or, ie*, both in nouns and verbs; and whether these letters end the word or are followed by *e* final; as in *robes*, *robes*, *races*, *roads*, *rides*, *tags*, *rages*, *toils*, *dreams*, *sighs*, *rains*, *bars*, *waves*, *roses*, *passes*, *mazes*, *laws*, *days*, *news*, *preys*, *vows*, *joys*, *brushes*, *sings*, *breathes*, *clutches*, *lozes*, *goes*, *flies*.

Sc before *e, i* and *y*, have only the sound of the single letter *s* or *c*. Thus *science* is pronounced *sen*; *scientist*, *sist*.

S before *m*, in the terminations, *asm, esm, ism*, has the sound of *z*; as in *spasm*, *telesm*, *baptism*.

The pronunciation of the word which is radical or primitive in English is to be observed in the derivatives. Thus the letter *s* is directed to be pronounced as *z* in *bruse*, and this direction is to be observed in all its derivatives. *Earth* being directed to be pronounced *erth*, all its derivatives and compounds are to follow the same direction. So *freight* is pronounced *frate*.

POINTED LETTERS.

A has the short sound of *at*; as in *alter*, *what*.

Æ [*ke*] is the same as *k*; as in *cape*, *access*.

E whether by itself or followed by *i* or *y*, has the sound of *a* long; as in *where*, *there*, *vein*, *survey*.

I has the sound of *e* long, or *ee*; as in *machine*.

O has the sound of *oo*, or French *ou*; as in *more*.

U has the sound of short *u*; as in *come*, *wonder*.

OU have the short sound of *oo*; as in *book*, *look*.

U has the sound of *oo*; as above, as in *full*, *pull*.

CH have the French sound, like *sh*; as in *chaise*.

G has the sound of *j*.

TH have their vocal sound; as in *thou*, *this*.

U has the sound of *yu*; as in *unite*, *use*, pronounced *yunite*, *yuse*.

In digraphs or combinations of vowels, of which one only is pronounced, the mark over one vowel designates the sound, and the other vowel is quiescent; as in *bear*, *leat*, *cóurse*, *sóul*, *blóod*, *bów*, *lów*, *crów*, *bestów*.

The digraphs *ea, ee, ei, ie* have uniformly the sound of long *e*; as in *meat*, *vet*, *seize*, *siege*.

Before the letter *r*, there is a slight sound of *e* between the vowel and the consonant. Thus *bare*, *parent*, *mere*, *mire*, *moer*, *pure*, *pyre*, are pronounced nearly *baer*, *paerent*, *appaerent*, *me-er*, *mier*, *moer*, *puer*, *pyer*. This pronunciation proceeds from the peculiar articulation *r*, and it occasions a slight change of the sound of *a*, which can be learned only by the ear.

The vowels in unaccented syllables are either short, or they have their first sound slightly pronounced. Thus in the words *produce*, *domestic*, *a* has its first sound, but pronounced rapidly and without force. In syllables which have a secondary accent, the vowel is often long, and little distinguishable from that in syllables having the primary accent; as in *legislature*, in which *a* in the third syllable has its long sound.

In syllables wholly unaccented, the sounds of the vowels are so rapidly uttered, that they cannot be designated by written characters; they are all sounded nearly alike, and any attempt at a proper notation of such evanescent sounds serves only to perplex or mislead the learner.

Words of anomalous pronunciation, not falling under the foregoing rules, are printed in an orthography which expresses their true pronunciation.

The Welsh *r* has the sound of the vocal *th*, in *thou*.

In the expression of the sounds of foreign words in English characters there is often an insurmountable difficulty, as there are sounds, in some lan-

guages, which English characters, according to our use of them, will not express with precision. But in regard to etymology, such exact expression of sounds is not necessary. For example, in regard to the affinity of words, it is wholly immaterial whether the Hebrew *א* is expressed by *a, e, or bh*; whether *ב* is expressed by *d, th, or dh*; whether *ה* is expressed by *h or ch*; and whether *פ* is expressed by *k, q, or qu*. So in Arabic it is immaterial whether *ح* is expressed by *th or ds*, and *ك* by *g or kh*.

The Arabic vowel *fatha*, I am informed, is differently pronounced by the Persians and Arabians; the one nation pronouncing it as the English *a* in *mate*; the other, generally, as *a* in *fall*. I have expressed it by *a* or *ate*.

It was desirable that the Russ, Saxon, Swedish, and German words should be printed with the appropriate types; but the utility would have hardly compensated for the expense of suitable fonts, and no essential inconvenience can result from the want of them; the English characters being sufficient to express the sounds of the letters, with all the exactness which etymology requires.

ABBREVIATIONS EXPLAINED.

<i>a.</i>	stands	for adjective.
<i>adv.</i>	"	for adverb.
<i>con.</i>	"	for connective or conjunction.
<i>exclam.</i>	"	for exclamation, or interjection.
<i>n.</i>	"	for name or noun.
<i>Obs.</i>	"	for obsolete.
<i>prep.</i>	"	for preposition.
<i>pp.</i>	"	for participle passive.
<i>ppr.</i>	"	for participle of the present tense.
<i>pret.</i>	"	for preterit tense.
<i>pron.</i>	"	for pronoun.
<i>v. i.</i>	"	for verb intransitive.
<i>v. t.</i>	"	for verb transitive.
<i>Ar.</i>	"	for Arabic.
<i>Arm.</i>	"	for Armoric.
<i>Ch.</i>	"	for Chaldeæ.
<i>Corn.</i>	"	for Cornish.
<i>Dan.</i>	"	for Danish.
<i>D.</i>	"	for Dutch or Belgic.
<i>Eng.</i>	"	for England or English.
<i>Eth.</i>	"	for Ethiopic.
<i>Fr.</i>	"	for French.
<i>G. or Ger.</i>	"	for German.
<i>Gr.</i>	"	for Greek.
<i>Goth.</i>	"	for Gothic.
<i>Heb.</i>	"	for Hebrew.
<i>Ice.</i>	"	for Icelandic.
<i>Ir.</i>	"	for Irish, Hiberno-Celtic, and Gaelic.
<i>It.</i>	"	for Italian.
<i>Lat. or L.</i>	"	for Latin.
<i>Per.</i>	"	for Persian or Persian.
<i>Port.</i>	"	for Portuguese.
<i>Russ.</i>	"	for the Russ language, or Russian.
<i>Sam.</i>	"	for Samaritan.
<i>Sans.</i>	"	for Sanscrit.
<i>Sax.</i>	"	for Saxon, or Anglo-Saxon.
<i>Sp.</i>	"	for Spanish.
<i>Sw.</i>	"	for Swedish.
<i>Syr.</i>	"	for Syriac.
<i>W.</i>	"	for Welsh.

Anthology, a magazine conducted by a group of liberals in theology who were conservative in politics, literature, and language. When Webster announced his acceptance of Calvinistic tenets of religion, the hostility of the Bostonians increased. They devoted more space to a minute dissection of Webster's books than to those of any other writer.
 . . .⁶⁴

Upon the publication of the 1828 dictionary, Warfel continues:

The American Quarterly Review of Boston revived the ancient prejudices, but publication brought praise from almost every prominent American. Even James Madison, now the Rector of the University of Virginia, commended Webster's "learned research, elaborate discrimination, and taste for careful definition."⁶⁵

It is interesting to note in this connection that John Pickering refused to renew an old feud, even though offered the opportunity. His daughter writes: "From Mr. William Russell, editor of the 'Journal of Education,' and Mr. Walsh, of the 'American Quarterly Review,' my father received solicitations to review Webster's Dictionary." Walsh's letter of January 14, 1829, is quoted in part: "We ought ourselves to exhibit the errors of Webster before they fall under the acrid pens of the European critics." Miss Pickering continues: "A few months later, March 22, he again writes saying:--'Sorry I am that you cannot undertake Webster's Dictionary. Such a work should be properly reviewed in our own country before it is handled in Great

⁶⁴Warfel, p. xxxix.

⁶⁵Ibid., p. xlii.

Britain.'" Miss Pickering adds succinctly: "My father did not review it."⁶⁶

Other conservatives were less reluctant than Pickering. Chief among these were Lyman Cobb, whom Krapp calls "Webster's great adversary," and Joseph E. Worcester, whom Krapp characterizes as "the special spokesman for the culture of the Hub of the Universe."⁶⁷ The American Dictionary began the "battle of the dictionaries" which was to last almost into the last decade of the nineteenth century.

Cobb seized upon the many inconsistencies in Webster's orthography in an elaborate criticism printed in pamphlet form in 1831.⁶⁸ With the appearance of Worcester's expanded dictionary in 1846,⁶⁹ the storm broke again in greater fury. Cobb had previously made an abridgement of Walker's dictionary in 1827⁷⁰ and had to his credit an earlier work: A Just Standard for Pronouncing the English Language (Ithaca:

⁶⁶Mary Orne Pickering, p. 364.

⁶⁷Krapp, Vol. II, pp. 70, 74.

⁶⁸Lyman Cobb, A Critical Review of the Orthography of Dr. Webster's Series of Books (New York: Collins and Hannay, 1831).

⁶⁹Joseph E. Worcester, A Universal and Critical Dictionary of the English Language (Boston: Wilkins, Carter and Company, 1846).

⁷⁰John Walker, Cobb's abridgment of Walker's Critical Pronouncing Dictionary and Expositor of the English Language (Ithaca, New York: Mack and Andrus, 1828). A second edition of Cobb's abridgement appeared in 1832 (Hartford: S. Andrus). The first American edition of Walker had come off the press in 1803 (Philadelphia: Budd and Bartram).

Spenser and Stockton, 1821).⁷¹ Later, in 1835, he was to make a final contribution to the field of dictionary making.⁷² His principal rivalry with Webster, however, began with his New Spelling Book, as previously noted. Worcester, on the other hand, offered long and severe competition to Webster as a compiler of dictionaries.

Early Trends in Dictionary Making

It might be well, at this point, before examining the dictionaries of Worcester, to survey briefly the tendencies in dictionary making in these early years in the United States. American pronunciation, both actual and prescribed, naturally followed British pronunciation to a large extent. One scholar writing on the English language remarks that Webster "mentions with obvious pride the fact that his pronunciation agreed with what was considered the best in

⁷¹Full title: A Just Standard for Pronouncing the English Language; containing the Rudiments of the English Language, arranged in Catechetical order; An Organization of the Alphabet; An Easy Scheme of Spelling and Pronunciation intermixed with Easy Reading Lesson: To which are added, some Useful Tables, with the Names of Cities, Counties, Towns, Rivers, Lakes, &c. in the United States; and A List of the Proper Names contained in the New Testament, and Pronounced According to the Best Authorities. Designed to Teach the Orthography and Orthoepy of J. Walker.

Both the first edition and the revised edition (Ithaca: Mack & Andrus, 1825) have the usual divisions of vowels and consonants, subdividing the latter into the traditional classes of mutes, semi-vowels, and liquids. Cobb's terminology shows no improvement over Franklin's: sounds are described as "soft," "broad," "flat," "rough," "smooth," etc. Superior numbers are employed to indicate the pronunciation of the vowels.

⁷²Cobb, Cobb's Orthographer and Orthoepist (New York: Harper and brothers, 1835).

England."⁷³ Leavitt cites Dr. Samuel Johnson's influence on Webster and Webster's "lifelong fondness" of quoting Johnson in his own support.⁷⁴ It was quite natural that American dictionaries grew from and were influenced by British dictionaries.⁷⁵ The most popular of the British dictionaries were those by John Walker and Thomas Sheridan. Walker was the winner in the contest between these, the two dictionaries which dealt in matters of pronunciation at any great length. This was not because of any inherently greater accuracy of Walker dictionary. To the contrary, there is reason to believe that Sheridan more accurately reflects the pronunciation of his time, while Walker is more concerned with indicating pronunciation as he conceives it should be. Esther K. Sheldon has devoted a brief article to this thesis.⁷⁶ She believes that the influence of Walker was made possible by the constant republication of his works during the nineteenth century and by his influence upon succeeding dictionary makers. Miss Sheldon writes, with

⁷³Eilert Ekwall, American and British Pronunciation, Essays and Studies on American Language and Literature (Upsala: The American Institute in the University of Upsala, 1946), p. 29

⁷⁴Leavitt, p. 13.

⁷⁵A brief account of the most important of these early English dictionaries is given by R. O. Williams, "The Growth of Our Dictionaries," Our Dictionaries and Other English Language Topics (New York: Henry Holt and Company, 1890), pp. 1-44.

⁷⁶Esther K. Sheldon, "Walker's Influence on the Pronunciation of English," PMLA, LXII, March 1947, pp. 130-146.

respect to Walker's influence on modern pronunciation, that ". . . in about four out of five instances where the two men differ the pronunciation recommended by Walker has become the modern pronunciation required by American dictionaries and taught in American schools." Certainly, Walker had a strong influence on Webster through the work of Stephen Jones. Jones edited the 1788 edition of Sheridan's work, Sheridan Improved, correcting errors and so-called "improprieties," and relying, for these corrections, on Walker's dictionary, as Miss Sheldon indicates. She concludes: "There can be no doubt that, if any one single person were to be named as the greatest influence on English pronunciation, that person would have to be Walker."

An examination of the early American dictionaries bears this out. All dictionaries up to Webster's American Dictionary were virtual carbon-copies of Walker's with respect to pronunciation. Even Webster, although differing in some respects, did not free himself from this influence. Cobb follows Walker's pronunciation faithfully, as did Worcester, in the main.

An interesting development in American speech is implied in the following statement by Krapp:

. . . Throughout all this period [early eighteenth century] . . . Walker must have represented a much more faithful record of the facts of American speech than Webster, and this difference between Webster and Walker was one of the main reasons why, before the appearance of Worcester, Walker was so generally preferred to Webster as a guide to pronunciation. Worcester's first edition accepts in general Walker's pronunciation . . . Later editions of Webster followed Worcester, or at least agreed with Worcester in recognizing what must have been since

the beginning of the nineteenth century an accomplished fact in American pronunciation. . . .⁷⁷

If both Miss Sheldon and Krapp are to be credited, this means that, although Sheridan may have more accurately mirrored the speech of everyday England, that the influence of Walker must have shaped the speech of educated Americans to such an extent that Webster's comparatively minor deviations were regarded with distaste, especially by those who looked to England for authority.

Worcester's Dictionaries

Worcester, though a native of New Hampshire and a graduate of Yale, early settled in Cambridge. Although he achieved considerable fame as a rival to Webster through compiling and editing a series of dictionaries, he was also noted as the editor of a series of almanacs and as the author of text-books. Conservative in lexical matters, he became the spokesman for Bostonians of his day. That he was in high favor with the conservative literary element as early as 1827 is shown by a statement made by Worcester, writing at a much later date:

"Johnson's English Dictionary, as improved by Todd and abridged by Chalmers, with Walker's Pronouncing Dictionary combined," first published in Boston in 1827, was edited by me on principles fixed upon by the publishers and some literary gentlemen who were their counsellors in the matter; and of these counsellors, the one who did the most in the business was the late learned and much respected Mr. John Pickering.⁷⁸

⁷⁷Krapp, Vol. II, p. 237.

⁷⁸Joseph E. Worcester, A Gross Literary Fraud

The 1827 dictionary marked Worcester's entry into the ranks of American dictionary-makers.⁷⁹ A contemporary reviewer recommends it as containing "the most complete vocabulary in our language. . . the worst charge against it that can be made, if any," he writes, "is that of superfluity."⁸⁰ This charge is not difficult to understand when one considers that the dictionary also includes, in addition to Walker's pronunciation, his "Key to the Classical Pronunciation of Greek, Latin, and Scripture proper names" and his "Observations on the Greek and Latin Accent and Quantity." Another work preliminary to Worcester's 1830 dictionary was his abridgement of Webster's American Dictionary.⁸¹ In the "Preface," Worcester gives unstinted praise to Webster and his scholarly accomplishments. This friendly relation was not to last.

Exposed (Boston: Jenks, Hickling and Swan, 1853), p. 14. This short book, composed chiefly of letters from and to Worcester, relates to the publication in London of what Worcester calls (p. 3) his "Universal and Critical Dictionary of the English Language . . . with a false title and mutilated preface . . ." The title page announces the publication as "Webster's and Worcester's Dictionary," according to the indignant Worcester (p. 6).

⁷⁹Worcester, editor, Johnson's Dictionary, etc. (Boston: C. Ewer, 1827; second edition, 1828).

⁸⁰"Worcester's Edition of Johnson and Walker," North American Review, October 1828, pp. 515-524.

⁸¹Worcester, Comprehensive Pronouncing and Explanatory Dictionary of the English Language (Boston: Jenks, Palmer and Company, 1830).

The 1830 dictionary of Worcester met with general approval, especially of the conservative element. In retrospect, it would seem that this approval was deserved. In spelling, Worcester treads a middle road between Webster and the British dictionaries. His definitions are brief but well stated. He avoids the pitfalls of etymologies by not giving any. The most distinctive part of the work concerns pronunciation, which receives particular attention. Pronunciations are carefully indicated and, where there is doubt, Worcester lists various pronunciations culled from a list of twenty-six earlier works, including dictionaries, on pronunciation. "On the whole," Krapp says, "the book impresses one as being a discriminating and scholarly piece of work."⁸²

With respect to matters of pronunciation, Worcester and Webster were in basic agreement as to the sounds of American English speech, but frequently not as to the pronunciation of individual words. Worcester, however, according to Krapp, "is the first to introduce into American discussions of [a:] the particular shade of sound which is designated by [a:]. This sound he called the intermediate sound of a 'between its short sound, as in fat, man, and its Italian sound, as in father, far.'"⁸³ Here, Krapp takes the "Italian sound" of a to be [a]. Krapp holds (p. 75) that Worcester probably

⁸²Krapp, Vol. I, p. 371.

⁸³Ibid., Vol. II, p. 74.

did not hear the sound [a:] in actual speech, but that it was a theoretical invention rather than an actual practice of speech. Worcester also notes the common vowel sound in vowel-plus-r spellings where modern phoneticians use [ɜ] or [ə].⁸⁴ An excellent discussion of the pronunciations indicated by Webster and Worcester is contained in the second volume of Krapp's The English Language in America. It is evident from Krapp's discussion that a significant number of differences in the 1828 edition of Webster and the 1830 edition of Worcester were eventually settled in favor of Worcester's pronunciation. Later nineteenth century editions of Webster frequently agree with Worcester.

It is in the notation of pronunciation that Worcester differs most widely from Webster. Whereas Webster uses a simple system of accents to show "long" and "short" values of vowel letters, "pointed" letters, and occasional respellings, Worcester has a much more elaborate system of diacritics for both vowels and consonants, including "pointed" letters, and frequent respellings. As might be expected, this makes for finer distinctions, as Worcester claims. The obvious weakness, of course, is the multitude of symbols and the use of more than one symbol for the same sound. However, to avoid this would have involved a vast amount of respelling or a phonetic transcription, either of which would have been far too radical a step.

⁸⁴Worcester, Comprehensive Dictionary (Boston: Jenks, Palmer and Company, 1830) "Preface," p. xii.

"The War of the Dictionaries"

This 1830 dictionary was the opening of "the war of the dictionaries" which reached its height in 1860 and the following year when Worcester's quarto dictionary was published. Before this, however, both Webster's and Worcester's works had gone into other editions. Worth of brief mention are the reductions which both men made for elementary school use.⁸⁵ the enlarged 1846 edition of Worcester,⁸⁶ Chauncey A. Goodrich's revision of the 1828 Webster's,⁸⁷ and an 1855 edition of Worcester.⁸⁸ Two other dictionary endeavors of this period should be mentioned. The first of these is An Explanatory and Phonographic Pronouncing Dictionary of the English Language, edited by William Bolles.⁸⁹

⁸⁵Webster, A Dictionary for Public Schools (New York: N. J. White; New Haven: Durrie and Peck, 1833).

Webster, A Dictionary of the English Language, abridged from the American Dictionary, universal edition (New York: Huntington and Savage, 1846).

Worcester, An Elementary Dictionary for Common Schools (Boston: Jenks, Palmer and Co., 1835).

Worcester, Primary Dictionary (Boston: Jenks, Palmer and Company, 1850).

⁸⁶Worcester, A Universal and Critical Dictionary of the English Language (Boston: Jenks, Palmer and Company, 1846).

⁸⁷Webster, American Dictionary, revised and enlarged by Chauncey A. Goodrich (New York: Huntington and Savage, 1845). Goodrich was Webster's son-in-law.

⁸⁸Worcester, A Pronouncing, Explanatory and Synonymous Dictionary of the English Language (Boston: Hickling, Swan and Brown, 1855).

⁸⁹William Bolles, An Explanatory and Phonographic Pronouncing Dictionary of the English Language (New London: Bolles and Williams, 1847; second edition, 1850). An abridgement, A Phonographic Pronouncing Dictionary, had appeared in 1846 (New London: Bolles and Williams).

The name of this work is misleading, for no sort of phonetic type is used, but pronunciation is indicated by superior numbers. Bolles attempts to give the pronunciation of all words, not merely difficult or dubious pronunciations. The dictionary is interesting chiefly because of this attempt to give a complete record of spoken English. Otherwise, it is a book of little originality, depending mainly on Sheridan in matters of pronunciation. The second of these two curios is Daniel S. Smalley's American Phonetic Dictionary, published in 1855.⁹⁰ The introduction is by A. J. Ellis. In this dictionary, words are arranged in alphabetic order, then phonetically transcribed, with the definitions also in phonetic type (see Plate XVI, p. 336). Krapp gives a brief account of this dictionary.

. . . The phonetic alphabet is a good one, and it was devised by Benn Pitman, Elias Longley, and A. J. Ellis and others. The book was published by the aid of a bequest left for this purpose by Nathaniel Storrs, a Boston school principal. It was published in Cincinnati because the Longleys were established there as phonetic publishers, especially of Pitman shorthand books. The phonetic alphabet used in the dictionary differs but slightly from the one devised by Isaac Pitman, but the changes, such as they were, are the only feature of the book that can be called American. It is not a record of American speech, but merely a phonetic record of a generalized kind of English speech, published in America. It has now little present interest, neither has it been historically significant. . . .⁹¹

⁹⁰Daniel S. Smalley, American Phonetic Dictionary of the English Language, Adapted to the Present State of Literature and Science; with pronouncing vocabularies of Classical, Scriptural and Geographical Names (Cincinnati: Longley Brothers, 1855).

⁹¹Krapp, Vol. I, pp. 372-373.

The Phonetic Alphabet.

Long Vowels.

written	printed	sounded as
E e	Ē ē	ee in cel
Ē ē	E e	ea in earth
Ā ā	Ā ā	a in ale
Ā ā	Ā ā	a in arm
Ō ō	Ō ō	o in all
Ō ō	Ō ō	o in ope
Ū ū	Ū ū	ou in food

Short Vowels.

I i	I i	i in in
E e	E e	e in ell
A a	A a	a in am
U u	U u	u in ask
O o	O o	o in odd
U u	U u	u in up
U u	U u	ou in fool

Diphthongs.

Ī ī	Ī ī	i in isle
Ō ō	Ō ō	oi in oil
Ō ō	Ō ō	ow in owl
U u	U u	u in mole

Coalescents.

Y y	Y y	y in gea
W w	W w	w in way

Aspirate.

H h	H h	h in hay
-----	-----	----------

Explosives.

written	printed	sounded as
P p	P p	p in rope
B b	B b	b in robe
T t	T t	t in fate
D d	D d	d in fade
C c	C c	ch inetch
J j	J j	g in edge
K k	K k	k in lock
G g	G g	g in log

Continuants.

F f	F f	f in safe
V v	V v	v in save
R r	R r	th in wreath
Ō ō	Ō ō	th in wreath
S s	S s	s in busy
Z z	Z z	z in buzz
Σ s	Σ s	c in vicious
Σ s	Σ s	s in vision

Liquids.

L l	L l	l in fall
R r	R r	r in for

Nasal Liquids.

M m	M m	m in seem
N n	N n	n in seen
Ŋ ŋ	Ŋ ŋ	ng in sing

FONETIK DIKEONARI

OF EE

I NG L I S L A N G W A J J.

ABB

A a, de indefinit qrtikl, plant befór wúrds
beginig wíd de sünd ov a kónsant. Befór
wúrds beginig wíd de sünd ov a vrel, it is
ritu an.
ABACIST, Ab'a-sist, n. an akkuntant.
ABACK, A-bák, ad. bak; bakwárd; brhnd.
ABACOT, Ab'a-kot, n. kap ov stat formertil ypad
in Ingland.
ABACTOR, A-bák-tor, n. [L.] wan ha stels a herd
ov kail. [Kolom.]
ABACUS, Ab'a-kus, n. a kwantig tabl; a part ov a
ABAST, A-bást, ad. toard de stárn ov a sip.
ABASANCE, Ab'a-sans, n. abasans.
ABALIKATE, Ab-dí-son-et, v. f. tu estránj; tu
transfór from oní wan.
ABALIKATION, Ab-dí-son-et-jon, n. de transfór
de tji tu proprié.
ABANDON, A-bán-don, v. f. tu giv up; tu kwit;
ABANDONED, A-bán-dond, p. a. forsak; desért-
ed; veri wíked.
ABANDONER, A-bán-don-er, n. wan ha abandons.
ABANDONING, A-bán-don-ing, n. levig ov forsakip.
ABANDONMENT, A-bán-don-ment, n. de akt ov
forsakip.
ABANDONER, A-bán-don-er, n. wan tu ham a big
is abband.
ABARTICULATION, Ab-ar-tik-yú-lá-jon, n. a kind
ov qrtikýlajon hwiig admít ov manifest majon.
ABASE, A-bás, v. f. tu humbl; depre; brig la.
ABASEMENT, A-bás-ment, n. de akt ov humblig;
lo stat.
ABASH, A-bás, v. f. tu mak afúnd; tu konfúnd.
ABASHMENT, A-bás-ment, n. jam; konfúson.
ABATABLE, A-bát-a-bl, a. dat ms be abated.
ABATE, A-bát, v. f. tu leen; tu diminí; in lo, tu
deít, tu overínd.
ABATEMENT, A-bát-ment, n. de akt ov abating.
ABATER, A-bát-er, n. de person ov big dat abát.
ABATIS, Ab'a-tis, n. tres kut dún for militari.
ABE, Ab, n. de yorn for a wevera wep. [defénsa].
ABBA, Ab'a, n. a Siriak wurd, hwiig signífja fader.
ABRACRY, Ab'a-ri, n. de rít and posejóns ov an
ABRATIAL, Ab-a-jal, a. relatín tu an abu. [abot].
ABRE, Ab'a, n. an abot; an eksímistikal tji wíd-
st ófn ov dñt andkt.
ABREMS, Ab'os, n. de gúvernors ov a numeri.
ABREX, Ab'i, n. de residens ov an abot ov muk.
ABROT, Ab'ot, n. de gef ov an abi ov konvent.
ABROTHER, Ab'ot-her, n. de stat ov an abot.
ABREVIAE, A-bré-vi-et, v. f. tu forín; tu abríj.
ABREVIATION, A-bré-vi-et-jon, n. akt ov forínig;
kontrákij.

ABI

ABREVIATOR, A-bré-vi-a-tor, n. wan ha abríjes
ov redýses tu a smóler kumpas. [brákij].
ABREVIATORY, A-bré-vi-a-to-ri, a. forínig; kon-
trákij.
ABREVIAE, A-bré-vi-a-tur, n. abreviajón;
abríjment.
ABRIGANT, Ab'dí-kant, a. abríkatig; reuvsip.
ABRIGANT, Ab'dí-kant, n. a person ha abríkat.
ABRIGATE, Ab'dí-kat, v. f. tu rexp; tu reuvsip;
tu giv up; tu deprív ov rít.
ABRIGATION, Ab-dí-ká-jon, n. de desértig ov a
publik trust wídét a formal súrédor.
ABRIGATIVE, Ab'dí-kat-iv, a. abríkatig.
ABRIGATOR, Ab'dí-kat-ur, a. havig de kwólti ov hídig.
ABRIGATOR, Ab'dí-kat-ur, n. a plus tu hót grád in.
ABDOMEN, Ab-dó-men, n. de loer part ov de heil.
ABDOMINAL, Ab-dóm-i-nal, a. relatig tu de
abdomen.
ABDOMINAL, Ab-dóm-i-nal, n. wan ov an order ov
ABDOMINOUS, Ab-dóm-in-us, a. lqj-betid; abdom-
inal.
ABDUCE, Ab-dú, v. f. tu separat; tu dís from;
ypad in andóni.
ABDUCTOR, Ab-dúk-tor, n. a mual dat dros bak.
ABEANCE, A-bér-ans, n. behavýr.
ABEEDARIAN, Ab-be-er-dá-ri-an, n. a teper ov
lqgn ov de alfabel.
ABED, A-béd, ad. in bed; on de bed.
ABELE, A-bél, n. de hwiig poplar.
ABERANCE, Ab-ér-ans, n. a wonderig from
ABERRANT, Ab-ér-an-ti, n. de rít wa.
ABERRANT, Ab-ér-an-ti, a. déviantig from de rít wa.
ABERRATION, Ab-ér-é-jon, n. de akt ov wonderig.
ABERRING, Ab-ér-ing, a. wonderig; góip astrá.
ABET, A-bét, v. f. tu enkúraj; tu set on; tu ad.
ABETMENT, A-bét-ment, n. de akt ov abéting.
ABETTER, A-bét-er, n. wan ha abét; an akón-
ABETTOR, A-bét-er, n. wan ha abét; an akón-
ABEYANCE, A-bé-ans, n. revéjón; ekspektajón ov
posejón.
ABGREGATION, Ab-gré-gá-jon, n. a separa-jón from
ABHOR, Ab-hór, v. f. tu bat híterli; tu detést;
tu abomínat.
ABHORRENT, Ab-hór-ens, n. detéstafón; grát
ABHORRENT, Ab-hór-ent, a. struk wíd abhórrens;
odius; kóntrari tu; inkonsístent wíd.
ABHORRENTLY, Ab-hór-ent-li, ad. in an abhórrent
maner.
ABHORRER, Ab-hór-er, n. wan ha abhór.
ABIS, Ab'ib, n. de fýrt mual ov de Jajj yrr.
(1)

The transcriptions in Smalley's dictionary are in so-called "phonotype," which derives, according to Ellis' "Introduction" (p. xxiv), from Isaac Pitman's shorthand "phonotypy." Smalley, in the "Preface," claims that the work is "the first of its kind ever published." (It is interesting to note that the publishers of this dictionary also put out the Phonetic Magazine, begun in July, 1848, by Elias Longley, and later called Type of the Times. This latter was printed partly in phonotype, while the still later Phonetic Advocate, was wholly in phonotype, except for brief introductory material.)

In 1860 the final form of Worcester's expanded dictionary was established with a new edition of A Universal and Critical Dictionary of the English Language (Boston: Wilkins, Carter and Co.). In 1886 the last edition of Worcester appeared. In the period between these two editions raged the "war of the dictionaries." Noah Webster was present for this battle only in print. He had died in 1843. Upon his death, his heirs had sold the unbound sheets of the American Dictionary, 1841 edition, to a firm in Amherst, Massachusetts, who in turn had sold them to G. and C. Merriam, a rising firm of booksellers in Springfield. It is undoubtedly to this enterprising firm that Webster's dictionaries owe their initial victory over Worcester's dictionaries and their continuing success. The first step of G. and C. Merriam was to reduce the cost of An American Dictionary to a point where mass sales were possible. The second step was the building up of a staff of scholars and

specialists to compile and revise future editions. The 1847 edition was the first of a long succession of Merriam-Webster dictionaries. Its success was immediate. In this "war of the dictionaries,"⁹² it is obvious that the several editions of Worcester provided a necessary impetus to the Merriam firm, without which Webster's dictionaries would never have attained their high success. Spectacular advertising, enrollment of distinguished endorsers, feuds in the newspaper columns, the innovation of illustrated dictionaries--all played a part in this "war." However, the deciding factor was the employment by Merriam of Dr. C. A. F. Mohn, a distinguished German philologist, to overhaul the entire Webster etymology, one of the weakest points of the Webster dictionaries. According to Leavitt, George Merriam was the guiding genius of this enterprise. Leavitt writes: "If Noah Webster was the great originator of the Webster dictionaries, George Merriam was their perpetuator."⁹³

Actually, of the original dictionaries, Worcester's was probably the better. In the matter of definitions, Webster's was undoubtedly superior. In other matters, Worcester's seems to have had the edge. In pronunciation, Worcester's notation was more precise; his standards were somewhat closer to British usage, while Webster's stood, in some respects, for a local and perhaps provincial American usage.

⁹²Leavitt, pp. 41-62, gives a lively account of this war.

⁹³Ibid., p. 62.

Krapp concludes: "If one balances the faults of the Webster of 1828 against the faults of the Worcester of 1830, the totals are greatly in favor of Worcester. One must conclude that the success of Webster has been due largely to judicious editing, manufacturing, and selling."⁹⁴

⁹⁴Krapp, Vol. I, p. 372.

CHAPTER VI

THE PHONETICS OF JAMES RUSH

The final consideration in this study of early American phonology is primarily with the phonological aspects of James Rush's Philosophy of the Human Voice. Secondly, it is concerned with the survival of ideas on phonology, set forth in that work, in the works of men who might be validly termed followers of Rush. For information with respect to the secondary objective, reliance is placed upon a recent thesis by Daniel W. Scully.¹ For information pertaining to the vocal philosophy of Rush, frequent reference is made to a doctoral dissertation by Lester Leonard Hale.² For an analysis of Rush's ideas concerning phonology, however, the original sources is used.³ Reference is also made,

¹Daniel W. Scully, The Influences of James Rush, M. D., Upon American Elocution Through His Immediate Followers (Unpublished M. A. thesis, Louisiana State University, 1951), hereinafter referred to as "Scully."

²Lester Leonard Hale, A Re-evaluation of the Vocal Philosophy of Dr. James Rush as Based on a Study of His Sources (Unpublished doctoral dissertation, Louisiana State University, 1942), hereinafter referred to as "Hale."

³James Rush, The Philosophy of the Human Voice: Embracing Its Physiological History; together with a System of Principles by which Criticism in the Art of Elocution may be rendered intelligible, and Instruction, Definite and Comprehensive. To which is added a Brief Analysis of Song and Recitative (Philadelphia: J. Maxwell, 1827), hereinafter

when necessary, to primary sources in dealing with the publications of Rush's followers. However, the two unpublished works by Scully and Hale are definitive, and it would not be to the advantage of this present study to re-examine the bulk of the documents upon which they are based. Moreover, the fact that this present study is concerned basically with Rush's approach to and influence on phonology, not elocution, limits its scope and range of inquiry.

Rush's Phonetics: Analysis and Comparison

In the immediately following pages, the phonetic concepts of James Rush, as set forth in his Philosophy of the Human Voice, are analyzed. In the course of this analysis, Rush's phonetics are compared, from time to time, with the

referred to as "Rush, Philosophy of the Human Voice."

This work went into seven editions, the last being posthumous, under the provisions of Rush's will (see Hale, pp. 18-19). The editions subsequent to the first are as follows:

- Philadelphia: Grigg and Elliott, Second Edition, 1833.
- Philadelphia: J. Crissy, Third Edition, 1845.
- Philadelphia: Lippincott, Grambo, and Co., Fourth Edition, 1855.
- Philadelphia: J. B. Lippincott and Co., Fifth Edition, 1859.
- Philadelphia: J. B. Lippincott and Co., Sixth Edition, 1867.
- Philadelphia: J. B. Lippincott and Co., Seventh Edition, 1879.

The sixth edition is Rush's last revision. It is, though expanded in some sections and different from the preceding editions in minor details, surprisingly unchanged from the first edition. There are no retractions or changes in the theories expressed.

Reference in these pages are to the first edition.

concepts of selected present-day phoneticians. In so doing, there is no attempt to imply a continuity of Rush's theories into modern theory. Indeed, the line of thought and the practice of Rush with respect to phonology seem to have died almost with the death of their author. The reasons for this virtual disappearance of a considerable body of carefully-wrought theory will perhaps become evident with the development of this chapter of Early American Phonology. The analysis of Rush's phonology herein and the comparison to modern concepts are limited to certain basic concepts of Rush; to his descriptions of English speech sounds; and to his occasional descriptions of non-significant variants of English speech sounds, non-English speech sounds, and non-speech sounds. Certain aspects of English speech, with which Rush deals at length, are herein touched on only in passing: pitch, stress, force, the vocal mechanism, all are, to some extent, beyond the scope of this chapter.

Rush's basic approach to what we call today phonetics is shown in various places in his introduction to his Philosophy of the Human Voice. At the outset (p. 1), he states that he has sought "to bring the subject [speech as a whole] within the limits of science." He has, that is, attempted to draw his descriptions, conclusions, etc., from direct and scientific observations. His criteria in the analysis of human speech are, as he implies (p. iv,⁴ and elsewhere), largely

⁴"Instead of listening to the forms of vocal sound, and recording them, physiologists have copied the common-

his own ear and observations. Rush's desire for objectivity and direct observation compares favorable with that of modern phoneticians, admitting always that observation by one's ear necessarily has a subjective element. However, in considering Rush's work, it must be remembered that he did not have the scientific equipment of the modern researcher. C. K. Thomas, in his preface to Phonetics of American English states that: "The sources of my material are twenty years and more of phonetic study . . . and seven thousand case records of speakers from all over the country whose speech I have analyzed in detail."⁵ R-M. S. Heffner writes that: "Scientific phonetics begins by gathering the components distinguished by . . . analytical observation into classes. . . ."⁶ Further, he makes this distinction:

The phonetician, in his effort to delimit and to described the several distinct constituent speech sounds, can examine the movements of the speech organs which produce the sounds (genetic investigation), or he may examine the sounds as acoustic phenomena after they have been produced (gennemic investigation). For some purposes genetic investigation is indicated, while for others gennemic study yields better results. Neither approach may properly be ignored.⁷

places of argument from one another, from the time of Galen to the present, with that variety only which the mere capricious changes in arrangement produce."

⁵C. K. Thomas, Phonetics of American English (New York: The Ronald Press Company, 1947), p. vi.

⁶R-M. S. Heffner, General Phonetics (Madison: The University of Wisconsin Press, 1949), p. 2

⁷Ibid., pp. 2-3.

Rush, by and large, pursues the genemic method of investigation. Charles C. Fries, in a "Foreword" to a book by Kenneth Pike, makes this statement:

It seems now to be fairly well recognized that an instrumental study of the acoustic reality of sounds or of the physical minutiae of their production has little practical bearing upon language problems until it has been correlated with the perceptual reactions of the speakers to these sounds. These perceptual reactions must be classified in some way. Often those who deny the necessity of any perceptual correlation really use perceptual⁸ classifications of an extremely naive type. . . .

Certainly Rush would have agreed with the above. Rush is a descriptive phonetician in that he attempts to arrive at an accurate description of the sounds that he hears; he is a prescriptive phonetician in that he largely describes what he believes to be the correct and desirable sounds.

The "Radical and Vanish"

A cornerstone of Rush's study of the human voice is his theory, or concept, of the "Radical and Vanishing movement of the voice." To appreciate and understand much of that which is contained in his Philosophy of the Human Voice, one must have some appreciation and understanding of this concept. Hale calls this ". . . perhaps the most significant concept of Rush . . ." and goes on to say that ". . . his entire 'Doctrine of Syllabication and his system of alphabetic elements is based on this concept.'"⁹ Hale's explana-

⁸Kenneth L. Pike, Phonetics (Ann Arbor: University of Michigan Press, 1943), p. vi.

⁹Hale, p. 89.

tion of the radical and vanish is perhaps definitive. In his discussion (p. 90 ff.), he states that the radical "is the root note."

It is the beginning of each sound, from which can develop all manner of movement to complete any unit. Vanish, on the other hand, means nothing more than the continuation of the radical sound in whatever pattern is intended. Because the development of the radical is usually into a quickly vanishing or fading effect, he terms that last part of each sound the vanish. The first characteristic of this movement, then, is the change in volume or the fading.

Hale then gives Rush's illustration of the diphthong [ei],¹⁰ where the weak element is the vanish. He then notes that "there is also a second characteristic of the radical and vanish movement, namely, a change in pitch--usually a rise." The normal rise, in unemotional speech, from radical to vanish, is one whole tone. Alterations of that interval will result in a variety of effects. Hale writes, and accurately, that "Rush does not believe that it is possible in speech to utter a sound which does not have a rise or fall in pitch." There are many variations in the radical and vanish movement, but Rush holds that it is always a complete unit. Many of the ramifications of this concept are not of primary concern in this study. However, some of the applications cannot be ignored. Rush's concern with an analysis of the sounds of English was, in large part, with intonation. Therefore, he describes the basic sounds of the language on the basis of the radical and vanish movement. This, he believes, would establish, in the words

¹⁰So described by Rush, rather than [ei].

of Hale (p. 100), "a close relationship between the arrangement of the sounds and expression itself." This study is not concerned with expression, but merely with the phonetic analysis of Rush in regard to pronunciation of the elements of English; but, since Rush's classification of sounds hinged on his application of the radical and vanish, this concept cannot be ignored.

Syllabication

It should be remarked that, although this concept was a piece of original thinking, although it played an important part in Rush's analysis of the English language, the concept virtually died with Rush. This does not, however, invalidate the concept. Its application to Rush's "Doctrine of Syllabication" is particularly interesting. A syllable occurs when the radical and vanishing movement has been completed. Each vowel, or "tonic," has its own radical and vanish; however, the radical of a syllable may commence with a voiced consonant, or the vanish may be a voiced consonant. Since the voiceless consonants have no radical and vanishing movement (voice being necessary), the addition of such to a syllable will lengthen but not otherwise affect it. Hale, in his chapter on "Syllabication as Explained by Radical and Vanish," summarizes this concept excellently (pp. 115-128).

The syllable, as defined by Rush, may be compared with the following definition by Pike:

A syllable is a single unit of movement of the lung initiator which includes but one crest of speed. Every occurrence of an initiator time bulge followed

by renewed speed of the initiator movement is a trough or border between two syllables.¹¹

This somewhat complicated definition is involved with an even more complicated analysis of segmentation of sounds.

The term "crest" may be illustrated thus:

. . . if one pronounces a long continued [a], only one unit [crest] is present, but if during that sound the lungs give jerky, unsteady pressure (several chest pulses within the single qualitative sound), numerous crests of sound will constitute a segment center.¹²

The term "initiator bulge" derives from the following

(pp. 111-112): "A time bulge is formed when during a glide the speed of movement is suddenly reduced (and often, but not necessarily, restored after a short interval) . . ."

This "trough or border between two syllables may be compared to Rush's vanish and the "crest" to the radical.

Certainly, however, Rush's definition is much more satisfactory from the standpoint of descriptive phonetics, for, as Pike states (pp. 116-117): "Real syllables are those which the ear is physiologically capable of distinguishing."

Heffner (pp. 73-74) makes a clear statement concerning the syllable:

. . . to divide speech sounds on the basis of their function into the two groups, syllabics and non-syllabics, is to assume the existence of the syllable. Attempts to define the syllable by the investigation

¹¹Pike, op. cit., p. 116.

¹²Ibid., p. 108. Cf. Stetson's "chest pulse," R. H. Stetson, Motor Phonetics (Amsterdam: North-Holland Publishing Company, for Oberlin College, 1951), passim.

of acoustic records of utterances have been unsuccessful, and instrumental phoneticians have denied the reality of the syllable. They do so because they cannot delimit the syllables on their records. As Jespersen long ago pointed out, this is somewhat the same kind of reasoning as would lead one to deny the existence of two adjacent hills because one cannot satisfactorily determine how much of the intervening valley belongs to one and how much to the other. The fact is incontestable that the decibel (microwatt) meter of any properly functioning acoustic recorder will show definite "peaks" of acoustic energy which correspond in number and in sequence precisely with the enunciation of the sounds we have called syllabics. There is one such peak for every fraction of an utterance which we would call, in our traditional way, a syllable.

R. H. Stetson has set forth the thesis, supported by extensive evidence, that the syllable is a motor unit; that is, that each syllable is basically a movement complex in which the larger, underlying movement is the breath pulse, or thrust of the chest musculature. . . . Unhappily, the underlying chest pulse can be observed only with the help of rather fussy laboratory techniques, and the practical phonetician who accepts the premise that the syllable is a reality will perforce operate, as his predecessors have operated, with the not wholly satisfactory criterion of sonority.

The "Alphabetic Elements"

Consideration now turns to the "alphabetic elements" of Rush. The idea of one symbol per sound and one sound per symbol is, after a fashion, present in Rush, as in the following (p. 51): "An alphabet should consist of a separate symbol for every elementary sound . . ." He does not, however, use any kind of symbolization, in his own representation of speech sounds, but rather uses key words. He states (p. 52):

As the number of elementary sounds in the English language exceeds the literal signs, some of the letters are made to represent various sounds, without a rule for discrimination. I shall endeavor to supply this want of precision by using short words of known pronunciation, containing the elementary

sound, with the letters which represent them marked in italics.

It goes without saying that this use of key words sometimes leads to confusion in Rush's listing of vowel sounds.

One is reminded here of Du Ponceau's English Phonology, in which the same approach is used. There is no evidence, however, to show that Du Ponceau and Rush were aware of each other's work. It would be strange, however, to suppose that these two men, both intensely interested in the English language, both writing at the same time, and, moreover, both living in the same city, should be totally unaware of each other.

The "Tonics"

Rush does not use the term "vowel." In a footnote (p. 51), he states:

I set aside, in this place at least, the sacred division into vowels, consonants, mutes, and semi-vowels. . . . [Such descriptive words, he believes, do not add to an understanding of the true nature of the sounds of speech. He refers, rather, to Tonic sounds (pp. 53-54).] . . . those sounds which display the properties of the radical and vanish in the most perfect manner . . . The tonics have a more musical quality than the other elements: they are capable of indefinite prolongation: they admit of the concrete and tremulous rise and fall through all the intervals of pitch: they may be uttered more forcibly than the other elementary sounds, as well as with more abruptness: and whilst, by these two last qualities, they hold the power of forming the fulness and stress of the radical, they are not without the means of going through the delicate feebleness of the vanishing movement.

At this point, two terms should be defined. By "abruptness," Rush means the "sudden and full discharge of sound, as contradistinguished from its more gradual emission."

(P. 31.) By "concrete," or a "concrete sound," he means a continuous sound; while "discrete sounds," on the other hand, are those in which "some of the continuous movement must be lost . . ." (pp. 32-33). Further (p. 53), in reference to tonics: "They consist of different sorts of vocality. . . ." That is, they are voiced. To restate Rush's definition of what we usually call vowels, in the words of Hale (p. 103):

The tonics, then, are vocalized sounds which in themselves possess complete radical and vanishing movement. Because they possess this entire movement, tonics are capable of any kind of prolongation. They can have any type of inflection, force, or protraction of the radical and vanish . . .

Something similar to the radical and vanish concept is found in Heffner's definition of the syllabics. To Rush, as has been stated, a syllable occurs upon the completion of an entire radical and vanishing movement. Heffner writes (pp. 72-73):

The classification of speech sounds on the basis of their function in the movement of a syllable or on the basis of their relative sonority gives us two basic groups. The first is conveniently called the syllabics; it comprises those sounds which occur usually as the most sonorous element of syllables or during the emission of the breath pulse of the syllable movement. For example, in the syllable rat the most sonorous element is [æ]. The syllable movement is released by [r], the breath pulse flows during the utterance of [æ] and the syllable movement is checked by [t]. Hence [æ] is the syllabic element of the syllable [ræt]. The syllabics most frequently found in western European languages are generally called vowels.

Later (p. 76), he writes:

The essence of a syllabic is that it shall be gennemically the element of the major sonority in its syllable, or genetically the chief carrier of the emitted breath pulse of the syllable. More

often than otherwise, these most sonorous elements are what we conventionally call vowels.

Both Heffner and Pike admit the difficulty of exact classification on an either-or, vowel-or-consonant basis. Pike writes (p. 66): "The most basic, characteristic, and universal division made in phonetic classification is that of consonant and vowel. Its delineation is one of the least satisfactory. . . ." Pike, after a thorough discussion of the difficulty of classification on different bases (such as the paradox afforded by a definition based on sonority and the existence of whispered vowels) writes as follows (p. 78): "Vowels and consonants are then categories of sounds, not as determined by their own phonetic nature, but according to their grouping in specific syllabic contextual functions. . . ."

Rush, too, was aware of the fact that not necessarily are vowels only syllabic. In a footnote (p. 52), he comments on the classical division of vowel-consonant:

Passing by other assailable points of our immemorial system, the distinction, implied by its two leading heads, is a misrepresentation. Had he an ear who said--a consonant can not be sounded without the help of a vowel?

Any pronouncing dictionary shows that consonants alone may form syllables; and if they have never been appropriated to words which might stand solitary in a sentence like the vowels . . . it is not because they cannot be so used; but because they have not that full and manageable nature which exhibits the functions of the unconnected syllable with sufficient emphasis, and with agreeable effect.

Rush lists twelve tonics (p. 53): "[They] are heard in the usual sound of the separated italics, in the following words: A-ll, a-rt, a-n, a-le, ou-r, i-sle, o-ld, ee-l,

oo-ze, e-rr, e-nd, i-n." He makes a further division of the tonics into diphthongs and monothongs in this fashion (p. 60 ff.):

In illustrating the terms radical and vanishing movement, by the tonic a-le [referring to a previous illustration], it was stated that two sorts of sound are heard in the utterance of that element: that in plain unimpassioned effort, the voice rises through the interval of a tone; the radical beginning on "a," and the vanish diminishing to a close on "i". Now as all the tonic sounds necessarily pass through the radical and vanish, they demand an analysis relatively to that concrete function of pitch.

These seven of the tonic elements,
a-we, a-rt, a-n, a-le, i-sle, o-ld, ou-r
have different sounds for the two extremes of their intervals.

The remaining five,
ee-l, oo-ze, e-rr, e-nd, i-n,
have each, one continued sound throughout their concrete movement.

The tonics are therefore properly divided into Diphthongs and Monothongs. . . .

Another tonic is added (pp. 62-63):

I have been at a loss what to say of that sound which is signified by "oi" and "oy," as in "voice" and "boy." It may be looked upon as diphthongal tonic, consisting of the radical a-we and the vanishing monothong i-n, when the quantity of the element is short, and ee-l when long. But from the habits of the voice, it is difficult to give a-we without adding its usual vanish of e-rr [see later discussion]; and this makes the compound, a triphthong. If it is taken as a diphthongal tonic, this is the only instance in which the same radical has two different vanishes. And though this reason should not be conclusive against its classification, it suggests an examination of the subject. In case this sound should be considered as a true diphthongal tonic, and analogies seem in favor of it, it would make the number of tonics thirteen. . . .

Before proceeding to an examination of each of the tonics of Rush, two terms should be defined, according to his usage. "By the term diphthong," he writes (p. 63), I

mean the progress of the voice from one tonic sound to another; forming thus the impulse of one syllable, by a continuous gliding, without a perceptible change of organic effort, in the transition." Further, monothongs "have one sort of sound for both the radical and vanishing movement."

Rush's definition of a diphthong accords well with modern definitions. Thomas (p. 104) defines a diphthong as "a vocalic glide within the limits of a single syllable." Heffner writes (p. 112): ". . . a diphthong is a syllabic element, which begins with one sound and shifts to another, and we understand this to exclude consideration of those brief build-up and dying-out stages which characterize every speech sound." Rush did not, it should be noted, exclude the on-glide and off-glide.

Consideration turns now to the individual tonics of Rush and a comparison of them with the vowel sounds as indicated in modern phonetics.

The tonic ee-1, according to Rush, is a monothong. It is also, ordinarily (p. 66), a long tonic. Most modern writers would agree, that for practical considerations, [i] is a monothong. However, as Heffner points out (p. 99):

. . . English [i] is often a diphthongal rather than a pure vowel. This means that the sound begins as a relatively lax [i] and becomes more tense or close as it develops, so that a difference of quality becomes apparent. One may transcribe this diphthongal sound either as [iɪ] or as [ij], according as one observes its initial portion to sound like the vowel of fit or like that of feet.

Thomas, in his discussion of "Phonetic Variation under Reduced Stress" (p. 112 ff.), states that "The vowel [i]

occurs under primary or secondary stress, usually in the diphthongal form [ɪɪ]. . . ."

The tonic i-n is also classed as a monothong. It, according to Rush, is short. By and large, duration is not given the importance by modern phoneticians that it was by Rush and other phonologists of the nineteenth century. However, there is no basic disagreement as regards [ɪ], except that modern writers would point out, as does Thomas (p. 48), the wide range of tension in English [ɪ]. Rush may recognize this in his comment (p. 66) that "In the prolongation of i-n, it changes nearly, if not entirely, into ee-l."

The tonic a-le is described by Rush (p. 40 and p. 61) as having "the long and distinct sound of the monothong ee-l for its vanishing movement." Thomas, in common with most present-day writers, would indicate the sound as [eɪ] (p. 56), rather than the [ei] described by Rush. However, Heffner uses [ei] (p. 101 and elsewhere).

The tonic a-n is probably [æ], rather than [a]. It is classed by Rush as a diphthong and its vanish is described (p. 61) as "a short and obscure sound of the monothong e-rr." This is undoubtedly an attempt to describe an off-glide of the [ə] type. Modern writers do not class [æ] as a diphthong.

The tonic a-rt is also classed as a diphthong (p. 61), having the same vanish as above. Again, neither [a] nor [a] is classified today as a diphthong.

The tonic a-we is also a diphthong and is described (p. 61) as having the same vanish as the two sounds listed

immediately above. Here, also, modern writers do not class [ɔ] as a diphthong. (It will be remembered that Du Ponceau and Pickering did consider this sound as a diphthong.)

The tonic o-ld is also a diphthong and is described (p. 62) as having "its radical in the sound of o formerly supposed to be homogeneous. Its vanish is the distinctly audible sound of the monothong oo-ze." Thus, the sound, according to Rush, is [ou]. This is in agreement with Heffner, who writes (p. 105): "When the vowel begins with a relatively tense [o] as in soap, it is likely to end in a still higher vowel, and we may transcribe it [ou] . . ." Usual transcription, however, is [oʊ], and the vowel is recognized as frequently monophthongal.

The tonic oo-ze is described (p. 61) as a monothong. Heffner states (p. 107): "English [u] like English [o], [i], and [e], is frequently diphthongal rather than pure." He gives the varieties [uu] and [uw]. Thomas says (p. 93): "When lengthened, [u] may develop into the diphthongal [uu]."

It will be noted that no Rush equivalents have been given for [ʊ], [ʌ], [ɜ], [ɛ], [æ], or [ə]. It may be that the tonic e-rr represents for Rush [ʊ], [ʌ], [ɜ], and [ə]. This sound is classed as a monothong (p. 63). It is given as the vanish of a-we, a-rt, and a-n, and referred to (p. 61) as the "short and obscure sound of the monothong e-rr." This would seem to be a sound very like [ə]. Hale believes it to be [ɜ] (p. 102). It is evident that in Rush's own speech, the r was not "dropped." Rush says, in part, in discussing the

pronunciation of the word more (p. 334), ". . . the 'o' and 'r' being rapidly made at the termination . . ."

It seems likely, then, that Rush did not recognize the "r-coloration" as being an intrinsic part of the vowels [ɜ] and [ɔ]. If this is true, and if one value of e-rr represent modern [ə], then the stressed value of schwa, [ʌ], might well be the stressed value of e-rr. It is also possible that [u] might have been "absorbed," so to speak, in Rush's thinking, by this same tonic e-rr and by the tonic oo-ze.

The tonic i-sle was apparently heard by Rush as [ai], for he comments (pp. 61-62):

. . . The diphthongal nature of "i" has long been known . . . It is described by Sheridan and others, as consisting of a-we and ee-l: the coalescence of the two producing the peculiar sound of "i". In this account, it is admitted that the element is peculiar; I can therefore see no need of reference to a-we, in the theory of its causation. A skillful ear will readily perceive that the radical of i-sle is a peculiar tonic, and will so report thereon, without having recourse to the absurd supposition that an unheard sound is changed into another audible one.

Thomas, as do most modern phoneticians, gives the weaker element as [ɪ], and says (p. 105) that "The beginning of the diphthong varies in quality."

The tonic sound ou-r is similarly described (p. 62), except that the vanish is oo-ze. Thomas transcribes this sound as [au] (p. 106), but states that "[au] shades into [aʊ], and there is not much difference between them."

Rush's uncertainty in regard to [ɔɪ] has previously been mentioned.

One item remains to be considered at this point. That is the discussion of the "vocule" (p. 56). Rush speaks of the vocality of what would be called today voiced consonants, which he terms "subtonic sounds." He writes:

. . . Now it is in the portion of the subtonic sound, heard after the restoration of the free passage through the mouth, that the character of the vocality, in some of these elements, may be most easily perceived. This vocula or little voice, if I may so call it, is mentioned by writers as being necessary to complete the utterance of the class of mutes, so named: but it may be heard more or less conspicuously at the termination of all the sub-tonics. It is least perceptible in those which have the most aspiration. In ordinary utterance it is short and feeble; and is most obvious when employed in forcible or affected pronunciation. When the subtonics precede the tonics in words, they lose this short and feeble termination, and take in its place the full sound of the succeeding tonic, thus producing an abrupt opening of the tonic.

I have called this last vented sound of the subtonic the Vocule. . . .

Possibly the sound referred to here could be transcribed as [ə]. More accurately, it is probably what Henry Sweet and his followers have referred to as an off-glide, which Heffner calls a release, and which is a phenomenon of consonant release rather than a glide due to the fusion of adjacent sounds. "Thus," Heffner writes (p. 182), "the murmured vowel sometimes heard after the back stroke of [t] in French petite is called an off-glide by many writers."

The "Subtonics"

The sounds which a modern phonetician would call "voiced consonants" are termed by Rush "Subtonic sounds." He describes this division (p. 54) as including:

. . . a number of sounds possessing variously among themselves properties analogous to those of the

tonics; but differing in degree. They amount to fourteen; and are marked by the separated italics, in the following words:

B-ow, d-are, g-ive, y-ile, z-one, y-e, w-o [*sic*],
th-en, a-z-ure, si-ng, l-ove, m-ay, n-ot, r-oe.

These sounds are described in some detail (pp. 54-58).

A division is made on the basis of degree of vocality. For, Rush writes, "They all have a vocality; but in some it is combined with an aspiration." The stops, [b], [d], and [g], "have an unmixed vocality." In this idea of vocality, Rush uses the concept of the "vocule." It is the "last vented sound of the subtonics." The vocality of each subtonic bears a resemblance to one of the following five tonics: ee-l, oo-ze, e-rr, e-nd, or i-n. Rush's equivalents of [b], [d], and [g], he writes, have a vocality resembling the tonic e-rr. That is, Rush heard, in the release of these voiced plosives, a schwa-like sound. Some confusion is reflected, perhaps, in the following statement (pp. 54-55): "Some of the subtonic vocalities are purely nasal, as: m, n, ng, b, d, g." Hale reasons cleverly, but inaccurately (p. 104), with respect to this description of the plosives as nasal:

. . . He [Rush] apparently is referring . . . to their implosive positions during which he believes the vocality would involve nasal resonance due to the closed lips. [Closure would be more accurate, since the lips are closed only for the bilabial plosive.] The element b Rush says is the counterpart of p, varying only because of the vocality. Rush must consider the b to be oral in its explosion since it is identical with p and is also listed as an abrupt element. He describes the m, n, and ng as retaining their nasality throughout their entire production. Therefore, since b, d, g are nasal only in their subtonic vocality which is just employed in the implosive position, while m, n, ng are nasal in their entirety, the following table classifies as

nasals only the m, n, and ng. . . . [Here Hale gives a table of Rush's subtonics.]

Hale's description of the nasal vocality of the voiced plosives does not take into account the fact that the velum is closed. Rush undoubtedly confused the imploded vocality with the voiced release, for he writes (p. 55):

. . . The vocality of b, d, and g may not be immediately apparent to those who have not, by practice in the abstract utterance of the alphabet, attained the full command of pronunciation. Writers, in noticing these letters, have spoken of it under the name of "guttural [sic] murmur," and have regarded it as a peculiar sound; whereas it is the identical vocality, heard in y, th-en, z, zh, and r, but modified by the contact of the organs, into the respective individuality of each of them. The vocality of b, d, and g, in ordinary speech, has less time and intensity, and is consequently less perceptible than that of y, th-en, z, zh, and r, but it is the same in kind. . . .

Obviously this is an exploded (or, perhaps, preplosive) vocality. Equally obviously it is not nasal. Aside from this factor, the modern writer would not differ from Rush in a description of these plosive sounds, which Rush calls "abrupt." However, most present-day phoneticians would not be satisfied with the simple description of them as plosive and voiced. Nor would they be satisfied with Rush's statement (p. 55) that "It is the vocality alone of b that distinguishes it from p."

According to Rush (p. 57), the nasals m and n "have something of the sound of e-nd; and ng of i-n." (These, too, have an "unmixed vocality.") Modern phoneticians do not consider that the nasal consonants of English terminate in a vowel sound. However, Rush speaks of the "last vented sound of the subtonic . . ." when not followed by a succeeding

tonic.

The subtonics l and r have also an unmixed vocality. According to Rush (p. 57), "the vocalities [of l and r] bear a resemblance" to e-nd and e-rr, respectively. "B, d, g, ng, l, m, n, r," he writes (p. 54), "have an unmixed vocality; y, z, ʃ, w, th, zh have an aspiration joined with theirs." As has been mentioned, under the discussion of the plosives, the consonants y, th, z, and zh ([v], [ð], [z], and [ʒ]) have, according to Rush, a vocality similar to e-rr ([e]). His description leads one to believe that this vocality should be classed as an off-glide sound. He writes (p. 57):

. . . it is in the portion of the subtonic sound, heard after the restoration of the free passage through the mouth, that the character of the vocality, in some of these elements, may be most easily perceived, etc. [See p. 357 for complete passage.]

Rush's description of [j] and [w] is interesting. He writes (p. 55):

I have enumerated y and w as the initial sounds of "ye" and "wo," because "ye" is a vocality, like that of the other subtonics, mixed with an aspiration made over the tongue, when raised near the roof of the mouth: and because "wo" is a similar vocality mixed with a breathing through an aperture in the protruded lips. As b, d, g and zh are made by joining vocalities, instead of aspirations, with the organic positions of p, t, k and sh; so y and w are severally the mixture of vocality with the pure aspiration of "h" as heard in "he," and of "wh" as heard in "whirl'd." The addition to the aspiration changes these words respectively to "ye" and "world."

Later, he states (p. 56) that "Y-e and w-o have respectively something like a nasal echo of ee-l and oo-ze." Compare the following from Heffner (pp. 154-155):

. . . Many phoneticians regard the usual [j] of English . . . rather as a glide vowel than as a consonant. Others speak of this [j] as a semivowel . . . one may cite Kenyon: "Thus it is seen that j is a glide sound made by the modulation of the voice as the tongue moves continuously from the position for i to that for another vowel." No one seems to inquire how the tongue manages always to start "from the position for i" or how it gets there. Clearly the articulation of [j], like that of any other speech sound, has three phases: (1) the constriction, (2) the hold, and (3) the release. The second phase may be so short as to be in effect nonexistent, but the third phase is impossible without the first. In the case of English . . . [j], the audible portion of the sound is its release, since the second phase is normally so short as to be inaudible. In other words, a constriction is formed for [j], as for any true fricative, when the tongue blade is raised towards the prepalatal region, so that its flat upper surface produces a broad but shallow channel for the breath stream under the vault of the palate. . . . If there is no friction, yeast becomes east. The tongue position which is characteristic of the fricative [j] in such cases is about the same as that required for the vowel [i], but slightly higher, or closer to the palate.

. . . [When the vowel [i:] is final in English] this sound . . . is usually diphthongal [ij], and when released, an [ə], either voiced or whispered, is likely to be heard as the sound stops. . . .

Rush writes (p. 69):

. . . it is certain that the monothongs, when used as vanishes to the radical tonics, have in some degree the character of subtonics: that is, they lose the fulness of the radical opening which they have, when uttered by themselves. The vanish of a-le is very nearly allied to "y" if not identical with it; and the vanish of ou-r bears as near a relation to "w."

Also in this connection, another quotation from Heffner is relevant. Speaking of glides, he writes (p. 184):

. . . Two types of glide may replace the cessation of voice and thus break the hiatus in English. After the vowels [i], [ai], [ei], or [i] the glide [j] tends to appear . . . After the vowels [ɔ], [o], and [u] the glide [w] tends to break the hiatus.

. . .

It seems apparent from the above quotations that Rush was groping in the direction that Heffner, with a much greater reservoir of research, investigation, and theorizing to draw from, more explicitly reached. Also, in this connection, Bloomfield's transcriptions, such as [ij] and [aw] should be remarked.¹³

Rush does not ignore the occurrence of syllabic consonants. He states (pp. 69-70):

. . . some syllables are formed exclusively of sub-tonics. In the words "bidden," "fickle," "schism," "rhythm," "riven," and their congeners, the last syllable is purely subtonic, or a combination of subtonic and atonic. On these final syllables the radical and vanishing movement is performed. . . .

"Atonic Sounds"

Rush's equivalent of the modern term "voiceless consonants" is "atonic sounds." He also calls them "aspirations" and says (p. 58) that they ". . . have not that sort of sound which I have called vocality. They are produced by a current of the whispering breath through certain positions of parts, in the internal and external mouth." These atonics are indicated by the words "u-p, ou-t, ar-k, i-f, ye-s, h-e, wh-eat, th-in, pu-sh."

Although the atonics have no radical and vanish, they do have, according to Rush (p. 59), "a perceptible vocule, which consists in a short aspiration like the whispering of e-rr." Modern writers would speak of strongly and weakly aspirated stops; or, as Heffner does (p. 185), of the

¹³Leonard Bloomfield, Language (New York: Henry Holt and Company, 1933), passim.

termination of the consonant in a schwa-like sound in emphatic speech, as in [pə'li:z], puh-lease for please. Similarly, Rush states (p. 358):

Three of the vocules are vocal, and three aspirated. The vocules of "k" "p" and "t", which constitute the last class, are often changed from an aspiration to vocality, in an attempt to give stronger emphasis to their termination. . . .

The advance in terminology here, over such widely used terms as "hard," "soft," "thin," "dull," etc., is obvious.

Rush notes (pp. 58-59) the existence of voiced-voiceless pairs:

If any one will take the trouble to compare the mode of their [the atonics'] production with that of some of the subtonics, he will find them respectively identical in all their accidents, except that of vocality, which is wanting in the atonics.

His table of such pairs would appear thus, using IPA symbols in lieu of Rush's key words:

voiced

[b]
[d]
[g]
[v]
[z]
[j]
[w]
[ɔ]
[ʒ]
[ŋ]
[l]
[m]
[n]
[r]

voiceless

[p]
[t]
[k]
[f]
[s]
[h]
[m]
[e]
[ʃ]

With two exceptions, this would agree with modern concepts. These two exceptions are the pairing of [j] and [h] and the omission of [dʒ] and [tʃ]. It will be noted that in Rush's discussion of subtonics, [dʒ] is not mentioned, and that in

the discussion of atonics, [tʃ] is not mentioned. Perhaps Rush considered these as merely [d] plus [ʃ] and [t] plus [ʃ], respectively.

Miscellany

Rush is concerned chiefly with the actual speech sounds of English, but in his discussion of atonics he does mention (p. 59) three non-speech sounds: the voiceless nasal consonants. Remarking on the lack of voiceless analogs of [m], [n], [ŋ], and [r], he writes:

. . . The m, n, and ng are purely nasal, and when their vocality is dropped, the attempt to utter them by the mere breathing of the atonics, produces in each case similar snuffling expirations. Yet even this snuffling, though no reputed element of speech, is constantly used before the vocality of n or m or ng, as the inarticulate symbol of a sneer.

He then goes on to point out two other sounds which are not standard English speech sounds:

. . . the aspirated copy of the l, produced by a kind of hissing over the moisture of the tongue, is not a very uncommon deformity of utterance: and a true atonic parallel to the r, heard in what is called "the burr," is perhaps a still more prevalent defect of utterance.

In speaking of the form of stress which he calls the "vanishing stress," Rush, in the course of the discussion (p. 342 ff.), describes what is probably the glottal stop. Vanishing stress is a "reversed progression of force, by a gradual increase from the radical, to the extreme of the vanish." Rush comments:

The effect of the vanishing stress in discourse, may be very conspicuously observed in the speech of natives of Ireland, many of whom employ it, in the form of the simple rise and fall, or wave, on all the principal words of a sentence. . . .

Further on, he observes that "The effect of the vanishing stress on a semitone, may be heard in the act of Sobbing."

Two other non-speech sounds are described (pp. 355-356):

There is a sort of facetious or contemptuous comment of surprise and incredulity, consisting of an effort of aspiration made by the tongue and lips, like whistling; and which has all its qualities except shrillness. . . .

The other . . . is made by the larynx, without any designated conjunction of the lips and tongue. It is the function of Sighing . . . the symbol of distress, grief and anxiety.

The possibility of inspired speech is noted by Rush (pp. 95-96) when he writes:

It deserves to be remarked . . . that the distinct utterance of the elements, and the varieties of pitch in the Jews-harp and in whistling, can be made by the breath of inspiration. If these affections of the whisper cannot thus be produced as easily and as correctly as in expiration, it may, with a sufficiency of cause, be ascribed to the limitation of our voluntary power over the act of inspiration.

Pike, who has written much regarding non-speech and marginal speech sounds, mentions the voiceless nasals (pp. 8, 72). The voiceless [l] and [r] are, of course, standard speech sounds in some languages and occur as non-significant variants in English. The glottal stop is recognized as a non-significant variant in many English dialects. Pike (Chapter I and II) discusses inspired speech and sounds and marginal and non-speech sound, such as these mentioned by Rush, at length.

"The Melody of Speech"

In recent years the intonation of English has received a great deal of attention from phoneticians and phonemicists. It is pertinent, then, to consider Rush's thoughts with respect to "The Melody of Speech."¹⁴ Hale believes this phase of Rush's theories to be one of his major original contributions.¹⁵ Rush lays much emphasis upon the idea that the voice, in speaking, moves up and down the scale in specific intervals. Hale states (p. 133): "He was sure that the voice moved in discernible degrees and that even the smallest of intervals could be measured by the acute ear. Such an opinion was held by no other person at that time so far as the writer has been able to discover." The intervals through which the ordinary speaking voice moves are those of one full tone each. Thus, Rush states his theory briefly (p. 138):

The melody of the speaking voice, may be led, ascending and descending, through its whole compass, by a certain mode of diatonic succession: and may be brought to a satisfactory close, heard at the full period of discourse, by a descent of three concretes, from any point within the compass.

He expostulates upon this theory in detail (p. 113 ff.). The type of speech under discussion is "plain narrative or description." The "concret utterance of each syllable is made

¹⁴Rush, Philosophy of the Human Voice, Section VI, p. 113 ff.

¹⁵Hale, Chapter 9, p. 129 ff.

through the interval of a tone; and the successive concretes have a difference of pitch, relatively to each other." This is not to be taken to mean that each syllable rested on one pitch for its entire duration, for the "vanish" usually rises, sometimes falls, a whole tone, blending into the next "concrete." As Rush notes (pp. 122-123):

The melody of speech is made by movements of the voice, partly in the concrete and partly in the discrete scale. The radical and vanish of each syllable is strictly concrete. The transition from one syllable to another partakes in some instances of the nature of a concrete junction. . . . for though the fullness of the radical sound broadly distinguishes it from the fine termination of the antecedent vanish, and notwithstanding there is a momentary interruption of the line of sound, yet there is an appearance of one kind of continuity between them. . . .

Previous writers in the field of phonology, as Hale points out (p. 133 f.), held that one of the principal differences between speech and song lay in the fact that interval was discernible in song but impossible in speech. Rush also parts company with the past in giving expressive significance to changes of pitch in speaking. It goes without saying that no modern writers would deny the phonemic character of pitch or that any teacher of interpretation would gainsay the significance of pitch change in the speaking voice. Two features of melody in speech remain to be considered, however, before passing on to the relation of Rush's theories to more modern ones.

According to Rush, "the characteristic melody of speech" is a triad of full tone intervals. He says, in explanation (p. 121):

If we pass from the third to the fourth [tone], the transition is by a semitone. The semitone has its peculiar expression in speech, and consequently its appointed place; but is inadmissible into the plain discourse of which we are now treating. The habit of the succession of the musical scale is so fixed in the ear, that if there was a phrase of melody consisting of four rising constituents, the last would unavoidably be a semitone; and the series, so constituted, would have the effect of the four first notes of the scale, when sung directly ascending in quick time. This phrase of song would, in its place, destroy the characteristic melody of speech.

This concept of successions or modifications of triads enters importantly into another concept of Rush's. He divides the spoken sentence into two part (pp. 117-118): ". . . into that which takes place in the major part of the sentence, and that which occurs on a shorter portion at its termination. These divisions, may be otherwise termed, the Current melody and the melody of the Cadence." The "Phrases of Melody" which in various sequence make an "agreeable style of speech," are six in number (p. 120f.).

1. "Monotone"--three syllables of the same pitch.
2. "Rising Ditone"--one syllable followed by two syllables each of the same pitch and one full tone above the first.
3. "Alternation"--"three or more, alternately a tone above and below each other . . ."
4. "Rising Tritone"--three syllables, the second one full interval above the first and the third one full interval above the second.
5. "Falling Ditone"--one syllable followed by two

syllables each of the same pitch and one full tone below the first.

6. "Triad of the Cadence"--the final phrase of the sentence and composed of three syllables (or variations), the second one full interval below the first and the third one full interval below the second. This "Triad of the Cadence" is the natural "termination of discourse." It, in turn, has six forms, all of them merely variations on the basic triad. This concept of cadence and of triadic succession of syllables is central in the proper melody of speech, according to Rush.

The weakness of Rush's intonational analysis, in the opinion of Pike, is that it "suffers from too strict a reliance on fixed musical symbolism, and failure to make a clear presentation of distinct speech melodies."¹⁶ Pike would not, nor would any other twentieth century writer on intonation, deny that spoken discourse has discernible intervals of pitch and that the characteristic melody of speech may be indicated by some kind of symbolism. In recognizing these facts, Rush may be said to have been in advance of his time. Again, Rush's concept of the change in pitch from the "radical" to the "vanish" may be said to anticipate the modern concept of rising and falling glides.¹⁷ Too, in recognizing the importance of his "triad of the

¹⁶Pike, The Intonation of American English (Ann Arbor: University of Michigan Press, 1946), p. 5.

¹⁷Ibid., p. 1.

cadence," Rush anticipated the thought behind such a statement as the following by Fries:

. . . In American English the chief problems can be narrowed . . . at first to the sequences of pitch changes that occur at phrase ends. The end points are important in relation to the pitch levels immediately preceding, for it is the sequences of differing tones or pitch levels covering phrase ends that in English are especially in contrast with one another and thus linguistically significant.¹⁸

Rush's Phonetics: Some Conclusions

Several conclusions may be drawn from the preceding brief survey, analysis and comparison.

Rush's methods were essentially the same as those of many modern phoneticians. His methods, essentially gen-
nemic investigation, consisted of painstaking and intensive observation of the actual sounds of speech as he heard them.

Rush's concept of the radical and vanish does not appear as such in modern phonetic and phonemic literature. His concept of the syllable, based upon application of the radical and vanish, does not appear in modern writings or in any other writings. However, these concepts have similar modern counterparts.

The present phoneticians' idea of one symbol per sound, one sound per symbol is remotely implicit in Rush's work.

The tonic sounds of Rush correspond to the modern writers' vowels; and Rush and modern phoneticians agree

¹⁸Charles C. Fries, Teaching and Learning English as a Foreign Language (Ann Arbor: University of Michigan Press, 1945), p. 20.

in the difficulty of exact delineation. Rush places more importance on what modern writers would call the glide elements of vowels than do most present-day writers. The central vowels are not adequately treated by Rush, and, especially, there is no clear treatment of [ə].

Rush's classification of subtonic sounds agrees, on the whole, with the modern term "voiced consonants," although there are minor lapses in his descriptions. The same can be said of the classification of atonics as compared with voiceless consonants. Here, it should be noted again that Rush did not, apparently, recognize the existence of affricates.

Rush was concerned only with actual speech sounds, yet there is evidence that he was aware of certain marginal and non-speech sounds.

The basic concepts of Rush, with respect to intonation, were correct in their broad outlines. He may justly be regarded as an original thinker in breaking with tradition in recognizing the importance of the pitchwise movement of the voice in connected discourse. He may be said to have anticipated modern theory with respect to the concept of the change of pitch in the off-glide element of a syllable and in the importance he gave to what he called the "triad of cadence," the final phrase of a sentence.

Finally, it may be tentatively stated that while Rush founded no school and had no followers who operated primarily as phoneticians, his analyses were, on the whole, accurate;

also, his important and original concept of the radical and vanishing movements of speech sounds has independently reappeared, at least in part, in modern phonetic literature.

Rush's Phonetic Theories in the Works
of His Followers

This study turns now to the works of men who may be validly termed Rush's followers in order to ascertain in what degree and fashion the phonetic theories of Rush carry over into their writings. According to Scully, Rush listed six men "whom he regarded as the first advocates of his system. This list, which was omitted from all printed editions of Rush's Philosophy of the Human Voice, includes Dr. Jonathan Barber, Samuel R. Gummere, Dr. John Barber, a Mr. Dennison, Dr. Andrew Comstock, and a William Bryant."¹⁹ An estimate of Rush's influence upon the writings of these men may be gathered from the extant works of four of them: the two Barbers, Comstock, and Gummere. These are the men--these six--whom Scully considers the immediate followers of Rush. Others who may be counted among the followers of Rush are William Russell, Frank H. Fenno, George L. Raymond, S. S. Hamill, and James E. Murdock, although only the latter actually studied with Rush. All of these men were authors of books on elocution, in which, as Pike says, they "adopted his material or . . . set out to simplify it."²⁰

¹⁹Scully, "Abstract."

²⁰Pike, *The Intonation of American English*, p. 5.

It seems reasonable to assume that a re-examination of Scully's sources would add little or nothing to knowledge of the extent of the debt owed to Rush by his immediate followers. Therefore, this study draws heavily upon Scully's statements and, frequently, is content with summarizations of parts of this excellent study.

Scully bases his examination of John Barber upon his Exercises in Reading and Recitation (Albany, New York: G. J. Loomis, 1828). This is the fifth in a series of five identically-titled books, the first four, according to Scully, by Jonathan Barber, John Barber's older brother. Scully's itemization (p. 44 f.) of Rush concepts which appear in John Barber's Exercises, and which are relevant here, may be summarized as follows:

1. Although not employing the terms "radical" and "vanish," or seldom the exact terminology of Rush, "he appeared to have some grasp of the theory of this concept. . . ."
2. Traces of Rush's influence are found in similar treatment of: "the concrete and discrete movement of the voice, the alphabetic elements of language . . . [and] the doctrine of syllabication. However," Scully states, "Barber did not pursue the implications of the radical and vanish principle so completely as they are revealed in Rush's more thorough investigation."
3. Rush's manner of presentation was simplified by Barber to permit classroom presentation.

Jonathan Barber, a Fellow of the Royal College of Surgeons, London, and an instructor of elocution at both Yale and Harvard, is a much more noted figure in the history of speech education than his younger brother. According to Gray, he ". . . seems to have made the first attempt, in 1830, to apply Rush's philosophy in practical

teaching."²¹ He was highly regarded by Rush and in turn thought most highly of The Philosophy of the Human Voice. Scully bases his discussion of Jonathan Barber (pp. 48-85), in part, upon an analysis of the four principal books written by Barber after he had become acquainted with Rush.²² (An early work of Barber, to which Scully does not refer, is the Elementary Analysis of Some Principal Phenomena of Oral Language, 1824.²³ This, of course, was written before The Philosophy of the Human Voice, and before Rush and Barber had met each other. Hale, however, says (p. 10) that ". . . in his Exercises for Reading in 1823, Barber had already presented a vocal philosophy that agreed almost entirely with what Rush proposed, and the two writers were immediately attracted to each other." In this 1824 work, however, the phonological aspects (p. 6 ff.) are inferior to those of Barber's later works. His analyses are reasonably accurate, but the terminology is vague and understandably traditional.) Scully's conclusions which are pertinent to this study are summarized

²¹Giles Wilkeson Gray, "Research in the History of Speech Education," The Quarterly Journal of Speech, XXXV (1949), pp. 156-163, see p. 158.

²²A Grammar of Elocution (New Haven: A. H. Maltby, 1830); An Introduction to the Grammar of Elocution, Designed for the Use of Schools (Boston: Marsh, Capen & Lyon, 1834); Exercises in Reading and Recitation, Selected by Dr. Barber, and Adapted to His Lectures on the Science and Practice of Elocution (Baltimore: J. Robinson, 1832); The Elocutionist (New Haven: A. H. Maltby, second edition, 1836).

²³Washington: William Cooper, Jun.

below:

1. Generally speaking, Barber followed Rush's suggested system but did not always use his terminology.
2. He recognized and applied the concept of "radical" and "vanish," but he did not use Rush's symbolization.
3. He recognized but did not use the doctrine of syllabication.

Andrew Comstock, who Scully says is remembered as "a teacher of vocal gymnastics and gesture and more particularly as an early speech correctionist and phonetician," attained more fame than any of the other five followers of Rush considered by Scully. As Scully notes (p. 88), none of the six is named in the Dictionary of American Biography,²⁴ but Comstock rates a brief paragraph in Appleton's Cyclopaedia of American Biography, Vol. I.²⁵ Comstock owned and operated a private school of elocution and most of his writing found its application in this school. For his study, Scully utilizes (pp. 86-114) five of Comstock's publications.²⁶ A sidelight with respect to one of these, Comstock's System of Elocution, is

²⁴New York: Charles Scribner's Sons, 1934.

²⁵New York: D. Appleton and Company, 1888, p. 702.

²⁶Practical Elocution; or, The Art of Reading Simplified (Philadelphia: Uriah Hunt, 1830); A System of Elocution, with Special Reference to Gesture, to the Treatment of Stammering, and Defective Articulation (Philadelphia: Butler and Williams, 1841); The Rhythmical Reader (Philadelphia: Published by the Author, 1832); A System of Vocal Gymnastics, A Key to the Phoneticon, Comprising a Variety of Elementary Exercises for Developing the Voice and Improving the Articulation (Philadelphia: Published for the Author, 1854); The Phonetic Speaker, third edition (Philadelphia: E. H. Butler and Company, 1859).

the inclusion therein of illustrations of "The Postures of the Mouth" (see Plate XVII,²⁷ p. 377). Scully's conclusions, with respect to Comstock, as pertaining to this present study, are summarized as follows:

1. Comstock emphasized vocal gymnastics and exercises in gesture.
2. Just after the publication of The Philosophy of the Human Voice, Comstock lifted long passages intact into his Practical Elocution (1830), but later he "began to depart more and more from an obvious use of Rush's doctrine" (Scully, p. 112).
3. He made no use of Rush's doctrine of syllabication.

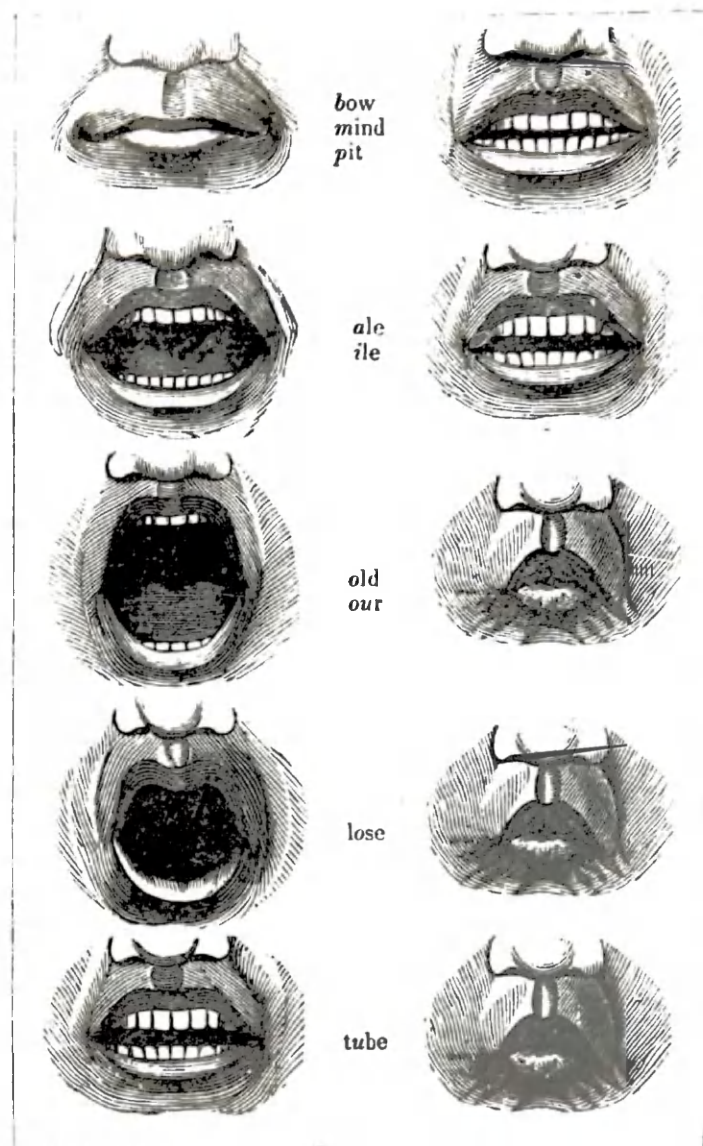
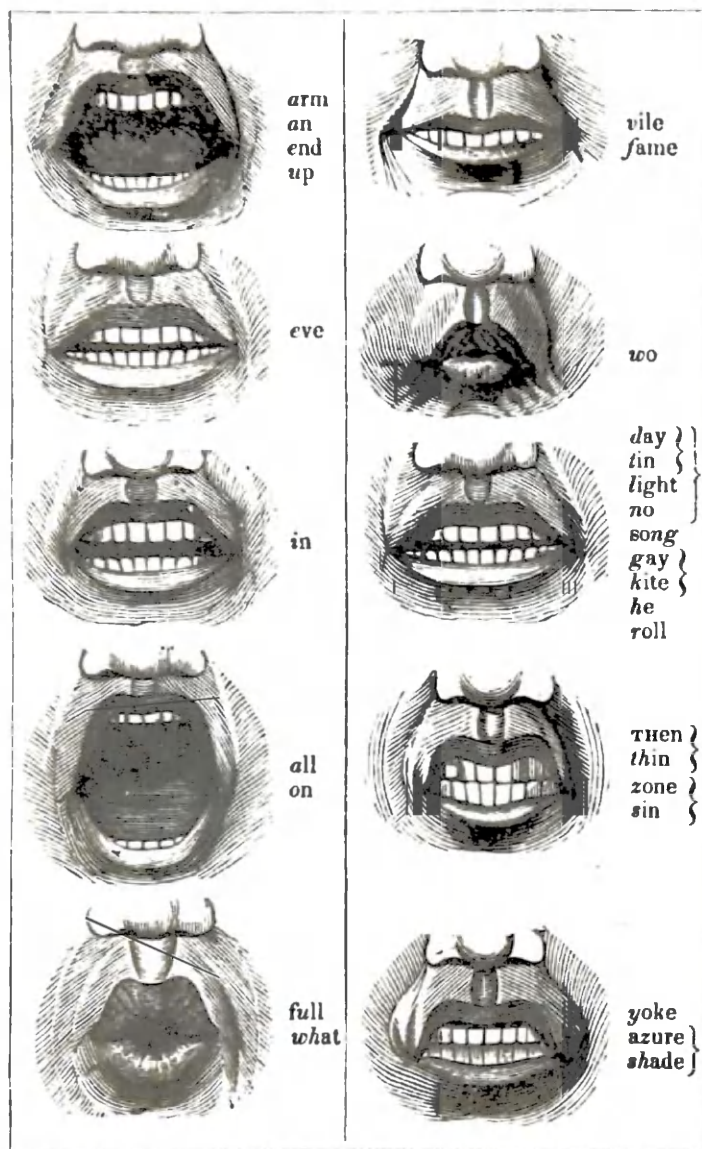
Samuel R. Gummere was a school teacher who introduced Rush's principles into classroom instruction and finally incorporated them into a text-book. It is this book, upon which, in part, Scully bases his analysis of Rush's influence upon Gummere (pp. 115-150). This textbook, according to Scully (p. 116), "adheres very closely to the basic tenets of Rush. . . ." Summarized from Scully (pp. 149-150) are the following conclusions relating to this study:

1. "For the most part, Gummere adhered closely to the basic tenets of Rush . . ." but did not follow him slavishly in adapting his material and philosophy for classroom use.
2. Gummere used Rush's terminology, differing only in minor details.
3. Gummere used Rush's doctrine of syllabication ". . . only indirectly, if at all. . . ."

There remain two of the six immediate followers of

²⁷Taken from the 1844 edition (Philadelphia: Butler and Williams), pp. 28-29.

²⁸A Compendium of the Principles of Elocution on the Basis of Dr. Rush's Philosophy of the Human Voice. To Which, Is Added, A Copious Selection of Exercises for Reading and Declamation (Philadelphia: Uriah Hunt & Son, 1857).



Rush: William Bryant, a New Jersey clergyman of the Episcopal Church, and "a Mr. Dennison." Concerning these two men, Scully says (p. 151) that "James Rush himself appears to be the only source of information." Bryant wrote nothing. His activities in behalf of the Rush doctrines seem to have consisted in a small amount of teaching, of both children and adults (Scully, p. 152). Even less can be said of Dennison. Rush writes of "a Mr. Dennison, an Irishman and a teacher in Philadelphia" (Hale, p. 266; Scully, p. 153):

. . . He caught a few of the principles of the work, and taught them in his school, but his habits of intemperance destroyed those powers of mind, which were necessary for the full understanding and application of the analysis, and he died in 1830 aged about 27 years.

Later Followers

Rush had a definite influence, not only on these six immediate followers, but upon men with whom, in some cases, he had no personal contact and who, for the most part, followed him chronologically, both in the United States and in England. However, this influence was exerted principally in the elocutionary phase of speech, rather than in phonetics. Pike writes:

By the beginning of the twentieth century, the intonation material was disappearing from the elocution textbooks . . . Instead of emphasis upon the quality of voice, attention began to be centered on the construction of sentences, or reverted to a modified form of Aristotle's rhetoric. In the present decade, books on "public speaking" show but little of Rush's earlier influence.²⁹

²⁹Pike, The Intonation of American English, p. 5.

What was true of material on intonation was also, by and large, true of the phonetic concepts of Rush. The emphasis tended in the direction of elocution and the phonological concepts of Rush rapidly withered away.

James E. Murdoch was undoubtedly the most important disciple of Rush. Gray says:

. . . it was Murdoch probably more than any of Rush's other students who formed the direct link between Rush and the present generation; for Murdoch, the student of Rush, was in turn the teacher of T. C. Trueblood. The life and work of Murdoch, covering some sixty or more years of activity as teacher, reader, and actor, extended from shortly after the appearance of Rush's first edition to the establishment of the department at the University of Michigan in 1892, and beyond.³⁰

Murdoch pays his homage to Rush as late as 1884, in the "Preface" to his Analytic Elocution, when he characterizes his own book as "the work in which I have labored to simplify and make practical Dr. Rush's 'Philosophy of the Voice,' which I consider the most complete system ever offered to the student of Elocution."³¹ Murdoch's debt to Rush in phonological aspects of Analytic Elocution, which is the consideration here, is obvious in certain terminology and in the application of various Rushian doctrines. He recognizes the concrete and discrete movements of the voice and the concept of the "radical" and "vanish" (see especially pp. 31-37). His symbol for the "radical and vanishing movement,"

³⁰Gray, op. cit., p. 158.

³¹James E. Murdoch, Analytic Elocution (Cincinnati: Van Antwerp, Bragg & Co., 1884), "Preface," p. iv.

which he also calls "the note of speech," is a modification of Rush's symbol (see Plate XVIII, p. 381). However, it is evident that he conceived the pitch range of a total "concrete" movement to be greater than did Rush. This whole concept was apparently as central in Murdoch's phonetic thinking as in Rush's. Murdoch writes:

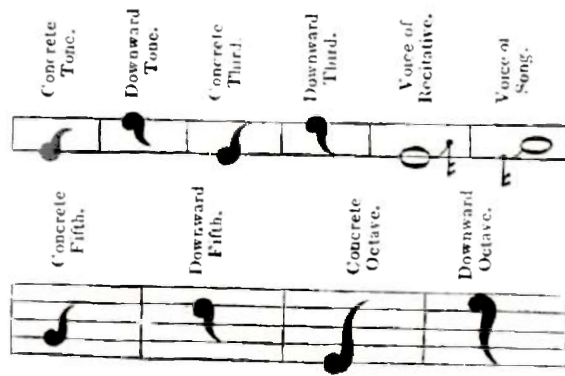
. . . The concrete function is the foundation upon which is built the measurement of all the sounds of speech, and is the principle which underlies the life and power of every utterance of the speaking voice, from the most delicate audible whisper, to the accumulated forces of the loudest and most prolonged shout within the capabilities of the vocal mechanism. It is the key which unlocks the whole philosophy of the speaking voice.³²

In his analysis of speech sounds, Murdoch uses much of Rush's terminology, such as "tonic," "subtonic," and "atonic." Murdoch lists 45 elementary sounds, whereas Rush gives only 35. These differences may be accounted for in the following tabular listings, which have been rearranged for purposes of comparison.

<u>Murdoch</u>	<u>Rush</u>
<u>Tonics</u>	
<u>A-l1</u>	<u>A-we</u>
<u>A-rm</u>	<u>A-rt</u>
<u>A-n</u>	<u>A-n</u>
<u>E-ve</u>	<u>Ee-l</u>
<u>A-sk</u>	
<u>Oo-ze</u>	<u>Oo-ze</u>
<u>L-oo-k</u>	
<u>E-rr</u>	<u>E-rr</u>
<u>E-nd</u>	<u>E-nd</u>
<u>I-n</u>	<u>I-n</u>
<u>Ai-r</u>	
<u>U-p</u>	
<u>O-r</u>	
<u>O-n</u>	
<u>A-le</u>	<u>A-le</u>

³²Ibid., pp. 36-37.

PLATE XVIII



"Notes of Speech"



Concrete rising tone. Concrete downward tone. Concrete rising third. Concrete downward third.



Concrete rising fifth. Concrete downward fifth. Concrete rising octave. Concrete downward octave.



Equal single direct, wave of the second. Equal single inverted, of the second. Equal single direct, of the third. Equal single inverted, of the third. Equal single direct, of the fifth. Equal single inverted, of the fifth.



Equal single direct, of the octave. Equal single inverted, of the octave. Unequal single direct, of the third and octave. Unequal single inverted, of the third and octave. Double equal direct, of the third. Double unequal inverted, of the third, fifth, and octave.

"Radical and Vanish"

<u>I</u> -ce	<u>I</u> -sle
<u>O</u> -ld	<u>O</u> -ld
<u>Ou</u> -r	<u>Ou</u> -r
<u>Oi</u> -l	<u>oi</u> , <u>oy</u>
<u>U</u> -se	_____

Murdoch, in his discussion of "tonics" (pp. 38-43), classes six of them as compound sounds: A-le, I-ce, O-ld, Ou-r, Oi-l, and U-se. Rush, to the contrary, classes only five "tonics" as monothongs: Oo-ze, Ee-l, E-rr, E-nd, and I-n. In connection with the foregoing, should be remarked Rush's concept of the "vocale."

Following is a comparison of the consonant sounds according to Murdoch and Rush.

Subtonics

<u>B</u> -abe	<u>B</u> -ow
<u>D</u> -id	<u>D</u> -are
<u>G</u> -ig	<u>G</u> -ive
<u>V</u> -alve	<u>V</u> -ile
<u>Z</u> -one	<u>Z</u> -one
<u>Y</u> -e	<u>Y</u> -e
<u>W</u> -oe	<u>W</u> -o
<u>Th</u> -en	<u>Th</u> -en
<u>A-z</u> -ure	<u>A-z</u> -ure
<u>Si-ng</u>	<u>Si-ng</u>
<u>L</u> -ull	<u>L</u> -ove
<u>M</u> -aim	<u>M</u> -ay
<u>N</u> -un	<u>N</u> -ot
<u>R</u> -ap	<u>R</u> -oe
<u>Fa-r</u>	_____

Neither writer (Murdoch, pp. 43-44; Rush, pp. 53-60) mentions [dʒ].

Atonics

<u>P</u> -ipe	<u>U</u> -p
<u>T</u> -ent	<u>Ou</u> -t
<u>K</u> -ick	<u>Ar</u> -k
<u>F</u> -ife	<u>I</u> -f
<u>H</u> -e	<u>H</u> -e
<u>S</u> -ick	<u>Ye</u> -s
<u>Wh</u> -eat	<u>Wh</u> -eat

Th-in
Pu-sh
Ch-urch

Th-in
Pu-sh

Rush, in his discussion of "atonic elements" (pp. 58-60), does not mention [tʃ]. The fact that Murdoch does so seems almost accidental, as he lists "ch, as in ch-urch" in his "Table of Atonic Elements" (p. 44), but does not, in the following discussion, or in his "Exercises on the Atonic Elements" (pp. 68-75), again refer to that consonant sound.

Two other phases of Analytic Elocution which are pertinent to this present study remain to be considered: syllabication and intonation. With respect to syllabication, Murdoch's treatment (pp. 83-95) shows little relation to Rush's elaborate doctrine. With respect to intonation, Murdoch leans heavily upon Rush's concepts and terminology in his own discussion of melody (pp. 206-302), going so far as to lift complete examples from Rush's book, using the same symbols and the same illustrative passages. It must be said, however, that Murdoch gives due credit to his teacher.

Another elocution teacher who was influenced by Rush is William Russell. Gray refers to him as ". . . apparently a prominent educator of the mid-nineteenth century . . ." and notes that he collaborated with Murdoch in writing a book called Orthophony, in 1845.³³ The previous year he had collaborated with John Goldsbury in writing and compiling The American Common-School Reader. In this work, the authors

³³Gray, loc. cit.

acknowledge their debt to Rush:

The compilers of the following work, have drawn, it will be perceived, to a considerable extent, from that invaluable source of instruction in elocution, *The Philosophy of the Human Voice*, by Dr. James Rush, of Philadelphia. The clearness of exposition, and the precision of terms, in that admirable work, have greatly facilitated, as well as clearly defined, the processes of practical teaching, in whatever regards the discipline of the organs of speech, or the functions of the voice, in utterance and articulation, in emphasis, inflection, modulation, and every other constituent of elocution.³⁴

The phonological content of this work is virtually non-existent and need not be mentioned here. If one may judge by a later work by Russell alone,³⁵ he seems to have been not greatly concerned with the actual phonology of English, but with voice quality, modes of expression, etc. In matters of pronunciation of words and classification of speech sounds he draws from Walker and, as an American authority, from Worcester.

George L. Raymond, who served as professor of oratory in Williams College, Massachusetts, is considered as a follower of Rush. In a book published in 1879, Raymond mentions *The Philosophy of the Human Voice* as "among the

³⁴John Goldsbury and William Russell, The American Common-School Reader and Speaker (Boston: Tappan and Whittemore, 1844), "Preface," p. x.

³⁵William Russell, The American Elocutionist; comprising 'Lessons in Enunciation', 'Exercises in Elocution', and 'Rudiments of Gesture' (Boston: Jenks, Hickling & Swan, 1854). "The book now offered, under the title of *The American Elocutionist*, comprises the author's course of instruction, formerly presented in the three distinct works mentioned in the title-page of this [book] . . ."--from the "Advertisement."

many works of merit on elocution that have been written in this country."³⁶ Although the phonological doctrines of Rush play no great part in this book, a survival is seen in "The Triad of the Cadence" (pp. 64-67), in the mention of "discrete tones" and "concrete tones" (pp. 66-67), and in the use of such terms as "diatonic melody," "semitonic melody" (p. 67), and "radical stress" (p. 76), for example. But the survival of Rush's work is only in terminology, the theoretical essence is missing.

S. S. Hamill's *The Science of Elocution*³⁷ is another example of the waning influence of Rush's phonetic concepts. In the "Testimonials" which precede the body of the work, William Russell writes, in part:

. . . Your favor of the ninth gave me the rare pleasure of perceiving that Dr. Rush's Philosophy of the Voice, as exemplified in my manual of Orthophony, (or Vocal Culture,) has led an intelligent and accomplished teacher of Elocution to prosecute for himself the analysis of vocal expression into its interesting and instructive details. . . .³⁸

The phonetic aspects of Rush's work, however, are not echoed in Hamill's writing; in fact, he states:

³⁶George L. Raymond, The Orator's Manual; a Practical and Philosophical Treatise on Vocal Culture, Emphasis and Gesture, together with Selections for Declamation and Reading (Chicago: S. C. Griggs and Company, 1879), "Preface," p. 8.

³⁷S. S. Hamill, The Science of Elocution: with Exercises and Selections Systematically Arranged for Acquiring The Art of Reading and Speaking (New York: Phillips & Hunt. Cincinnati: Walden & Stowe. 1882).

³⁸Ibid., p. 2.

. . . Syllabication, accent, and pronunciation, though all important in reading and speaking, do not properly belong to a work on Elocution. They can only be thoroughly learned from the unabridged dictionaries.³⁹

Generally speaking, in the works of Rush's followers, there is seen a definite weakening of the detailed phonetic doctrines that he so vigorously presented. Robb points out that the influence of Rush continued for some time, vying with other systems, such as that of Delsarte, and surviving at least to 1915 in John R. Scott's The Technic of the Speaking Voice.⁴⁰ However, in Scott's book, the survival, with respect to phonology, is represented only by remnants of Rush's terminology.⁴¹ Moreover, the influence of Rush does not survive in phonetic literature. As has been observed earlier in this chapter, although certain concepts of Rush still have validity and even appear in modern writing in the field of phonetics and phonemics, there is no actual continuum of Rush's phonetic theories into the present day.

A potent factor in the decline and languishment of Rush's phonetic theories lies in the use made of The Philosophy of the Human Voice and the ideas therein. As Scully

³⁹Ibid., p. 23.

⁴⁰Mary Margaret Robb, Oral Interpretation of Literature in American Colleges and Universities (New York: The H. W. Wilson Company, 1941), p. 113.

⁴¹John R. Scott, The Technic of the Speaking Voice (Columbia, Missouri: Printed for the author, 1915).

says (p. 167), ". . . where Rush satisfied himself with analysis and classification, his followers looked to immediate application for the results of practice." This application was in the field of elocution and became more and more detached from phonology per se. Moreover, for the convenience of teaching, Rush's philosophy became codified and formulated until skeletonized. As Scully puts it, "In the hands of an inexperienced teacher, a necessarily basic belief in observation and study of nature would probably have been replaced by a primary interest in such time-saving devices as mechanical drill upon exercises."

Another factor may lie in the seeming difficulty to the reader of The Philosophy of the Human Voice. In truth, much of the material therein is complex, and much of the writing can hardly be said to make for easy reading. This, added to the presentation of new ideas and new terminology must have discouraged many readers. An anonymous writer, in one of the rare reviews of Rush's work, writes:

. . . The new nomenclature in this essay will be apt to discourage readers. Indeed, it gives an aspect of novelty to things that are not new. As for instance, what is Dr. Rush's "radical and vanishing movement," but a rising or falling inflection? . . .⁴²

The fact that the reviewer misinterprets Rush is beside the point. As a matter of fact, this review, written in 1829, is generally favorable. The writer says of Rush's book:

⁴²"Principles of Elocution," North American Review, July 1829, pp. 38-67, see p. 45.

. . . We read it with great satisfaction. We consider it as going far beyond any former analysis of the voice. It is from an honest and hearty impulse, therefore, that we recommend it to others;--not having read the book, to review it, but reviewing it because we have read it.⁴³

Another factor which bears upon the comparative failure of The Philosophy of the Human Voice as a whole is one which has nothing to do with the merits or demerits of that work, but which, nevertheless, is pertinent: James Rush's personality and lack of personal popularity. Hale writes (p. 17):

It is quite obvious that Rush lost what popularity he had with the public not long after his publication of the second edition of the Philosophy, for it was only a year later that he presented society with the bitter sarcasm of Hamlet. Whether or not the public resentment of Rush personally had anything to do with the reception and use of his Philosophy cannot be determined. However, it is interesting to recognize this aspect of his life.⁴⁴

It is a fact that the lack of wide acceptance of Rush's Philosophy of the Human Voice left him an embittered man, a recluse and eccentric in the eyes of his fellow Philadelphians.⁴⁵ Rush's attitude toward his fellow townsmen should

⁴³Ibid., p. 41.

⁴⁴The Hamlet mentioned here is Hamlet, A Dramatic Prelude in Five Acts (Philadelphia: Key and Biddle, 1834). Here Rush's growing animosity toward society in general and the medical profession in particular finds sharp and repeated expression, both in the "Preface" and in the play itself.

⁴⁵In this connection, a comment by Mrs. Royall, the prototype of the modern American newspaperwoman, is of interest. Mrs. Royall, left a widow and penniless at the age of 54, became a writer and publisher, making her home in Washington, D. C. Visiting the mint in Philadelphia, she "went to see Dr. James Rush the treasurer. Dr. James Rush," she writes, "is the son of the celebrated Dr. Benjamin Rush, deceased, and a brother of the Secretary of the Treasury of

have had little effect upon the acceptance of his book, but, unfortunately, his attitude extended beyond Philadelphia and marred his writing. The anonymous reviewer previously quoted says as much, in the following:

. . . indeed, we think that there are decided faults in the work, which interfere with its success. There is a tone of contempt toward all former writers on rhetoric, not very conciliating to those who have hitherto taken them for masters and guides. The style, too, is often involved and obscure, and, it seems to us, unnecessarily singular and technical, however new are the thoughts to be exhibited. In fine, we cannot commend the manner of this performance, as we cordially do the matter. Dr. Rush has not patience. If we had said, modesty, it would have been more than we chose to say; but there are many passages which have an air of haughtiness and self-complacency, that are not needed in a work so capable of resting on its own merits as this.⁴⁶

In sum, it would seem that the science of phonetics could possibly have been established in 1827, but that for a variety of reason, this occurrence waited 40 years, until the publication of Melville Bell's Visible Speech.

the U. S. He is somewhat younger looking than Richard, the Secretary, tall and handsomely shaped. His face is small but keen, and has much expression though slightly furrowed, and his hair a little touched with time. He is still more affable and winning in his manners than the Secretary, and possesses all the ease and courtesies of a gentleman in the highest possible degree. Dr. R. is said to be a fine writer, though I was not fortunate enough to get hold of any of his works. One work in particular is highly extolled--it is called "Rush on the beauties of the human voice." (From Anne Royall, Mrs. Royall's Pennsylvania, or Travels Continued in the United States, Vol. I, Washington, printed for the author, 1829.) Mrs. Royall frequently wrote with a pointed pen, dipped in acid. Her gentle treatment of Rush is surprising, in the light of her other comments on various persons.

⁴⁶"Principles of Elocution," p. 45.

CHAPTER VII

SUMMARY

In the preceding six chapters, several aspects of early American phonology have been surveyed. In doing so, it has been impractical, if not impossible, to avoid taking into account other phases of the broad field of linguistics; but the focal point of this study, despite digressions, has been phonology. Chronologically, this survey has extended to the eve of the modern scientific development of linguistics. The terminal point of this study has been roughly designated, for convenience, as mid-nineteenth century, admitting that no exact demarcation can be drawn.

Two broad divisions of phonological activity have been indicated, relating: (1) to North American Indian languages; and, (2) to English speech, particularly to American English. Special attention has been given, with respect to English speech, to lexicography in America.

The first of the above-listed items, namely the languages of the North American Indians, has been dealt with extensively. This is to be expected, for the first and most urgent need for a study of speech sounds arose when the early white settlers of this country encountered an aboriginal people speaking strange, non-European languages. The early missionaries, particularly, realized that they must

study the languages of the people whom they hoped to instruct and to convert to Christianity. Further, these missionaries realized the value of reducing the North American Indian languages to writing in order that sacred texts might be available to the Indians. The linguistic problems faced by the early missionaries were both practical and immediate. In those terms their success or lack of it must be, in great measure, estimated. They succeeded, for the most part, in establishing communication with the Indians and in reducing to writing certain Indian dialects to the extent that various religious tracts were published in these dialects. These printed works, it may be assumed, were capable of being read by the missionaries--at least by the authors--and by persons instructed by them, including some Indians. Determination of the phonological acuity of the early missionaries is made difficult because of the lack of standardized terminology and orthography.

The weakness inherent in this lack of standardization carried over into the nineteenth century. By and large, the men characterized as "early missionaries" were active prior to 1800. In the nineteenth century, the Indian languages were, in a sense, rediscovered; for, although the missionaries continued their work, the study of Indian languages was taken up by scholars. Nevertheless, contributions in the form of word lists, vocabularies, and observations were made by explorers, missionaries, military men, and non-linguistic scholars who had no specialized training in language and to whom the Indian languages were a matter, frequently, of only

occasional interest. The problems of the early nineteenth century phonologists, with respect to the Indian languages, were principally (1) to examine and analyze the works of the early missionaries in order to determine their validity and worth; (2) to collect and systematize the miscellaneous minor and fragmentary observations of contemporary writers; (3) to record the results of first-hand observations; and (4) to attempt a standardization and pulling together of the whole.

In the survey of the activities of these early nineteenth century phonologists was noted the significant work of Peter S. Du Ponceau and John Pickering in the rediscovery of the Indian languages. These two men succeeded signally in examining and preserving for later re-examination the works of the early missionaries. Both are important as collectors and organizers of linguistic and phonologic data, past and contemporary, pertaining to the North American Indian languages. Both, but especially Pickering, made determined efforts to standardize the orthography of such languages. The obvious weaknesses of Du Ponceau and Pickering lay in their comparative lack of actual contact with living Indian languages and in their too frequent non-critical acceptance of material which came into their hands. It is obvious, however, that the methods of comparative linguistics, already strongly developed in Europe, early in the nineteenth century, were being applied and developed in America in relation to the study of Indian languages. It is equally certain that in this phase there were definite weaknesses: the

methods of field work were crude, phonetics had not yet become either an art or a science, the influence of Latin grammar hampered grammatical and syntactic analysis, and (as with Du Ponceau and Pickering) scholars had little direct contact with most of the Indian languages and frequently failed to recognize the deficiencies and imperfections of the material furnished by travelers, missionaries, and other non-linguistically trained observers. Nevertheless, comparative linguistics had begun, and it culminated,, in the early nineteenth century, in the work of Albert Gallatin, who stands at the brink of the modern study of Indian languages. The phonology of the period, however, has no direct continuum into the twentieth century. The advances in phonetics have outmoded the earlier efforts of Du Ponceau and Pickering. The Uniform Orthography of Pickering was of considerable immediate use to the missionaries but does not survive in modern treatment of Indian languages. Pickering's orthography does survive, however, as indicated, by virtue of its shaping influence in the orthography of Hawaiian, as fashioned by the early missionaries to the Sandwich Islands.

An especial phase of phonology as related to Indian languages is considered in Chapter IV of this study. The problem faced by Sequoyah, a Cherokee Indian, removed from and ignorant of the main current of linguistic thought and research, was simply to devise a written language for his people. This problem was solved by Sequoyah's invention of an almost ideal syllabary which exerted both an immediate

and lasting influence of considerable magnitude on the Cherokee Nation.

The onset of the second of the broad divisions of phonology, viz., that relating to English speech, followed chronologically the beginning of the study of Indian languages. As time and opportunity became available in America for scholarly pursuits, it was inevitable that attention should turn to the speech sounds of American English. Benjamin Franklin set himself the problem of representing speech sounds without the confusion inherent in conventional English orthography. His "Reformed Alphabet," the earliest phonetic treatment of American English, represents his attempt to solve his self-imposed problem. Hastily contrived and inconclusively followed through, it is nevertheless capable of practical application. Further, it is clearly indicative, with certain exceptions, of Franklin's own speech.

Du Ponceau, who figures also in this area, was more ambitious in his attempt to represent the sounds of English. His English Phonology is a detailed description and analysis of the sounds of English as he heard them. The work is marred by a lack of understanding of the physiological factors in the production of speech sounds, by the ambiguity lent to it through the use of key words, and by vague terminology, especially as relating to the description of sounds. These weaknesses are equally applicable to Franklin's "Reformed Alphabet" and to the work of phonologists down to

comparatively recent times.

Linguistic and phonologic endeavors dealing with non-English languages (other than Indian) have not been emphasized in this study, since, for the most part, such endeavors were grammars and dictionaries of little or no phonological importance. However, Du Ponceau's treatment of the Chinese language is of interest. Here, Du Ponceau sought to demonstrate that Chinese is truly phonetic rather than ideographic. His observations and conclusions, weakened though they are because of his lack of profound knowledge of Chinese, have found partial support in the writings of some recent sinologists.

The activity of the dictionary makers is introduced in this study for purposes of completeness. This is a much-written-upon field, and no attempt has been made herein to give a history of American dictionaries, rather the emphasis is on phonological theory and practice as observed in the activity of the dictionary makers. The obvious problem which faced the early American lexicographers should have been to represent American usage and pronunciation of English. The influence of British English, however, especially as represented by the standards set by Johnson in matters of definition and by Walker in matters of pronunciation, militated against facing this problem squarely. Consequently, the potent influence of British standards is evident from the early Glossary of David Humphreys and the Vocabulary of Pickering, through the works of even such a lexical

radical as Noah Webster. Much of this fifth chapter necessarily centers around the dictionaries and other lexically-slanted works of Webster and of his opponents. Chief among these opponents was Joseph E. Worcester. It is interesting to note that the pronunciation indicated in the dictionaries bearing the names of these two men tended to become more and more in agreement. The public disputes between partisans and the vigorous "war of the dictionaries" cannot conceal the fact that this dispute became more and more a matter of sales rather than principles. Since this study is concerned primarily with phonology, the systems of indicating pronunciation in the various dictionaries, those of minor lexicographers as well as Webster and Worcester, receive special attention. Despite the eventual preeminence attained by Webster's dictionaries, it is concluded that Worcester's phonological treatment was no inferior to Webster's, but rather the reverse.

The discussion of English phonology is concluded in this survey with a chapter on the phonetics of James Rush. Rush, as did Franklin and Du Ponceau, sought to describe the speech sounds of English. Although contemporary to a limited degree with Du Ponceau, Rush seems to belong to another era, so far as his phonology is considered. This difference is due in a large degree to his comparatively scientific methods, to his greater knowledge of physiology, to his introduction of a novel nomenclature, and to a number of original concepts. Because of factors brought out in

this chapter, Rush's influence, with respect to phonology, waned rapidly. However, the validity of certain of his phonetic concepts is demonstrated through comparison with twentieth century concepts.

Thus, in the preceding six chapter of Early American Phonology, a survey has been made of what might be termed the pre-scientific era in phonology in the United States. As has been stated specifically in the case of the treatment of Indian languages, it can be said that there are evident weaknesses in the field of early American phonology as a whole. Generally speaking, these weaknesses lie in factors which were an intrinsic part of the era surveyed in this study: the tools of modern research had not been developed, the methodology was crude and groping, phonetics was unformed as an art and as a science, phonemic concepts had not been formulated, structural linguistics was an unknown discipline and comparative linguistics was a relatively new science. From a twentieth century viewpoint, early American phonology suffers by comparison with what followed it. Viewed with respect to the time and the conditions in which it flourished, early American phonology accomplished much and laid the foundations for much more. Certainly, the early phonologists themselves lacked neither imagination nor industry, neither enthusiasm nor dedication.

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VITA

The writer was born November 23, 1914, in Kirksville, Mo., and attended elementary and secondary schools in that city. He was graduated from Kirksville Senior High in 1932. In 1933, he attended classes at Northeast Missouri State Teachers College at Kirksville. During the years 1936 to 1948, the writer was employed by the Railway Mail Service, a division of the Post Office Department. During this time, he also attended classes at the University of Kansas City and, later, at St. Benedict's College, at Atchison, Kansas. In May, 1948, the writer accepted the position of Continuity Editor of the Radio Department, Louisiana State University. He resigned from this position in August, 1950. In June, 1951, the writer was graduated from Louisiana State University with the degree Bachelor of Arts, having majored in Speech. In August, 1952, he was granted the degree of Master of Arts, from the same institution, again having majored in Speech. Subsequently, he began work toward the degree of Doctor of Philosophy at Louisiana State University, for which degree he is now a candidate.

EXAMINATION AND THESIS REPORT

Candidate: Cj Stevens

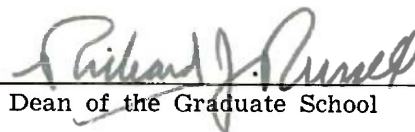
Major Field: Speech

Title of Thesis: Early American Phonology

Approved:

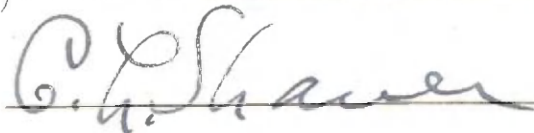
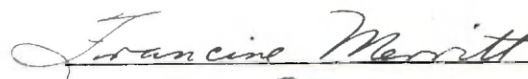
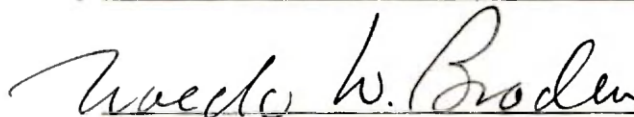
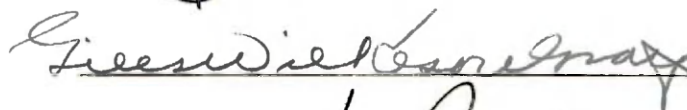
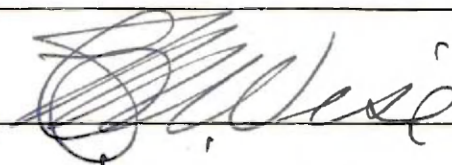


Major Professor and Chairman



Dean of the Graduate School

EXAMINING COMMITTEE:



Date of Examination:

